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COMMUNICATIONS FOR SOCIAL MARKETING:
A METHODOLOGY FOR DEVELOPING COMMUNICATION APPEALS
FOR FAMILY PLANNING PROGRAMS

Labdhi Pat Raj Bhandari

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of the requirements for
the degree of Doctor of Philosophy
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ABSTRACT

COMMUNICATIONS FOR SOCIAL MARKETING: A METHODOLOGY FOR DEVELOPING COMMUNICATION APPEALS FOR FAMILY PLANNING PROGRAMS

LABDHI PAT RAJ BHANDARI

This study has developed and tested an approach and a methodology for identifying persuasive communication appeals that have the best chances of influencing people's attitudes and behavior in the area of social marketing, specifically, family planning. It can be used by social marketers for designing communication campaigns.

Social psychologists and sociologists have emphasized that people's value systems and their perceptions of how these values are related to an object (behavior or person), have an important influence on their attitudes and behavior towards that object. In designing a family planning communication, the choice of its two most important elements--'message appeal' and 'source'--requires an understanding of the value system and perceived value-instrumentalities of the target population. Little research in family planning has been addressed to the problem of 'appeal' determination.

A methodology for generating relevant information about the target population, for the purpose of designing communications, should elicit their value systems, and perceived value-instrumentalities, in addition to measures of communication effects, media, demographic and socio-economic variables. The instruments used for ascertaining values

should allow for unconstrained, 'value-free' responses. The methodology should have cross-cultural applicability, and should allow for the use of standard sampling procedures.

The methods used in commercial advertising field involve pre-selection of dimensions and/or objects on which responses are sought, thus, restricting observation to target population's views about our concerns rather than their concerns and values. The methodology tested in this study uses a relatively new method, called ECHO technique, for generating value hierarchies of target populations as well as perceived patterns of influences operating on their lives. The method combines the advantages of a survey method with those of a phenomenological approach. It preselects valence--good or bad--but allows for the dimensions or objects to be empirically generated. The value responses as well as sources of influence are classified into categories by indigenous classifiers. A measure of value-instrumentality that uses the values generated in the same interview has been developed and tested in this study. The fieldwork for the test was conducted in North India.

The results confirm the postulated relationships among subsets of values and the criteria variables--practice of, attitude towards, intention to practice, and awareness of family planning. Similarly, strong and consistent relationships emerge between criteria variables and value-instrumentalities of family size and family planning. Among the more important values of the sample concern: health, children's welfare and children turning out to be 'worthy', family harmony, community disputes and occupation. The users of family planning have a more positive outlook and perceive a greater control over events in their

lives than do nonusers. The values provide content for messages.

A framework for developing communication strategies that segments target population on the basis of: usage, intention, and attitude, is used in the study. Among current users and those who intend to use in the future, favorable value-instrumentalities should be emphasized in communications, particularly those between family planning and good health, family harmony, children's welfare and the chances of their turning out to be worthy, progress on farm, and in occupation, etc. These appeals can also be used with nonusers who do not intend to practice in the future, however, favorable instrumentalities will have to be promoted as such perceptions are not widespread, and are sometimes unfavorable. Communications designed to counter widespread beliefs about anti-God nature and adverse effects of birth control methods, particularly sterilization, are needed. Communications promoting appreciation of reduced infant- and child-mortality and negative economic value of having many children are also recommended.

The results indicate that influential people of a community with whom the audience can identify, and religious leaders and holy men are more likely to be effective 'sources' of communication than urbanized change agents. Use of local dais--midwives--is recommended for promoting family planning acceptance. A product-mix that allows for more alternative methods--including the pill--is also recommended in view of the widespread anti-God and negative-health connotations of sterilization.

CONTENTS

ACKNOWLEDGMENTS	
Chapter	
I. INTRODUCTION	1
<u>Problem Statement</u>	
<u>Background: The Need</u>	
<u>Expected Contribution of the Research</u>	
II. DEVELOPING COMMUNICATION APPEALS:	
THEORETICAL FOUNDATIONS	7
<u>Models of Communication: A Brief Review</u>	
<u>Segmentation Approach</u>	
<u>Values and Value-Instrumentalities as</u>	
<u>Sources for Communication Appeals</u>	
III. THE METHODOLOGY	29
<u>Requirements of a Methodology</u>	
<u>Proposed Methodology</u>	
IV. DESCRIPTION OF THE STUDY	47
<u>Objectives</u>	
<u>Pretest</u>	
<u>Location</u>	
<u>Sample</u>	
<u>Recruitment and Training of Interviewers</u>	
<u>Field Work</u>	
<u>Adaption and Pretesting in Local Language</u>	
<u>Measures and Instruments</u>	
<u>Classification and Coding</u>	

Summary of Variables and Codes

V. EXAMINATION OF RELATIONSHIPS AMONG

COGNITIVE SYSTEM AND BEHAVIORAL VARIABLES 68

Organization

Classification of Variables

Values of Variables

Relationships Among System Variables

Discriminating Between Users and Non-Users:

Multivariate Analysis of Relationships

Conclusion

VI. DETERMINING COMMUNICATION APPEALS FOR

TARGET POPULATION SEGMENTS 135

Organization

Segmenting the Target Population

Suggested Communication Appeals

Source Variables

Comparison with Current Communication Campaign

VII. CONCLUSIONS 184

Values, Value-Instrumentalities and Their

Relationships with Attitude and Behavior

An Evaluation of the Methodology

Implications for a Social Marketing Program

in Family Planning

APPENDIX A: Individuals Associated with the Study in India 196

APPENDIX B: Some Photographs of the Field Work in India 198

APPENDIX C: Questionnaire Used in India 202

APPENDIX D: English Version of the Questionnaire Used in India . .	224
APPENDIX E: Final Value Categories and Their Constituent Items . .	239
REFERENCES	245

ILLUSTRATIONS

Figure

1. Segmentation Approach	13
2. Cognitive System	15
3. Target Population Segments	136

Map

1. Rajasthan, India	49
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LIST OF TABLES

1. Aspects of Message Variables	3
2. Models of Communication	9
3. Framework for Communication Intervention	26
4. Values Included in The Rokeach Value Survey	37
5. Rural and Urban Areas Sampled: Key Characteristics	51
6. Sample Breakdown	52
7. Beliefs About Family Planning	58
8. Aggregate Values of Socio-Demographic and Media Variables, and Knowledge, Attitude, Perception and Beliefs About Family Planning	71
9. Values of Criteria Variables	70
10. Correlations Among Criteria Variables	74
11. Chi Square Relationships Among Criteria Variables	76
12. Partial Correlations Among Criteria Variables	77
13. Cross-Tabulation of Attitude by Awareness	78
14. Cross-Tabulation of Intention by Attitude	79
15. Cross-Tabulation of Usage by Attitude	80
16. Cross-Tabulation of Attitude by Usage by Awareness	81
17. Cross-Tabulation of Attitude by Intention by Awareness	83
18. Correlations between Criteria and Socio-Demographic and Media Variables	86
19. Chi Square Relations between Criteria and Socio-Demographic and Media Variables	87
20. Partial Correlations between Criteria and Socio-Demographic and Media Variables	89
21. Correlations of Criteria Variables with Beliefs About Family Planning	90

22. Chi Square Relationships of Criteria Variables with Beliefs about Family Planning	91
23. Partial Correlations Between Criteria Variables and Beliefs about Family Planning	92
24. Correlations Among Beliefs About Family Planning	93
25. Factor Analysis of Beliefs About Family Planning	95
26. Values: Frequencies of 'Good Things to Happen'	98
27. Values: Frequencies of 'Bad Things to Happen'	99
28. Values: Frequencies of 'Good Acts'	100
29. Values: Frequencies of 'Bad Acts'	101
30. Factor Analyses of Values: Key Characteristics	104
31. Factor Analysis of All Value Responses	106
32. Value Categories: Frequencies for 'User-Nonuser' Subgroups	111
33. Value Categories: Frequencies for 'Urban-Rural' and 'Male-Female' Subgroups	113
34. Correlations of Value Categories with Criteria Variables	118
35. Chi Square Analysis of Relationships Between Value Categories and Criteria Variables	120
36. Partial Correlations Between Value Categories and Criteria Variables	122
37. Chi Square Relations of Value-Instrumentalities of 'Having Many Children' With Criteria Variables	125
38. Chi Square Relations of Value-Instrumentalities of 'Family Planning' with Criteria Variables	127
39. Discriminant Analysis--Coefficients	131
40. Discriminant Analysis--Classification Results	133
41. Socio-Demographic and Media Characteristics of Segments	138
42. Knowledge, Attitude, Perceptions and Beliefs of Segments about Family Planning	141
43. Value Hierarchies of Segments	145

44. Value Hierarchies of Segments: Top Twelve Values	147
45. Instrumental Relationships of Values for Users and Nonusers	150
46. Instrumental Relationships of Values for Nonuser Segments	154
47. Perceived Sources of Causation	176
48. Perceived Sources of Causation of Some Values	177
49. Perceived Sources of Approval/Disapproval	179
50. Local News Sources	180

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CHAPTER I

INTRODUCTION

Problem Statement

Social Marketing has been defined as the "design implementation and control of programs calculated to influence the acceptability of social ideas and involving considerations of product-planning, pricing, communication, distribution and marketing research" (Kotler, 1971). The problem of developing communication appeals to influence attitudes and behavior has not received much attention in the area of social marketing. The present study is concerned with the investigation of this problem, and with the development of a methodology for selecting communication appeals in the social marketing field, particularly family planning.

Background: The Need

Studies in family planning communications have not seriously investigated the problem of "appeal" or "message" determination (Bhandari, 1973; Schramm, 1971; Rao, 1974; Pareek & Rao, 1974). The only studies concerned with appeals have been pretests of communications or their executions incorporating predetermined alternative messages (Farley & Harvey, 1972; Lieberman, 1973). Such studies can result in potentially useful communication appeals only under conditions where

a great deal is known about the motives and value systems of target populations. In such instances the alternative messages that are tested are themselves chosen after the relevant motives and values have been ascertained systematically. This, however, is not true in most cases. This problem is more acute when methods (of appeal selection) developed in one culture are applied in another culture.

Communication-Persuasion field has had a rich tradition of research among behavioral scientists as well as marketing and advertising researchers (see McGuire, 1973 and Holbrook, 1974 for reviews of communication-persuasion research and advertising research respectively). McGuire has analysed research under the five aspects of verbal communications: namely, source, message, channel, receiver, and destination (McGuire, 1973). It is the message variables in persuasive communications that we are most concerned with in this study. Several aspects of content as well as structural variables of messages have been studied. Content variables relate to appeals and style of delivery, structural variables, on the other hand, concern organization of the content and inclusions and omissions, e.g., opposition arguments, conclusions, and repetitions of the message (McGuire, 1973). Table 1 summarizes the aspects of message variables that have been researched. Research on type of appeal made in persuasive messages has been primarily concerned with the question of threat and fear arousal. The work done on structural variables and stylistic content variables, while some of it is inconclusive, provides some guidelines for message design. The question of what specific appeals, goals, should persuasive communication be based on has received only limited attention (McGuire, 1973; p. 233).

TABLE 1

ASPECTS OF MESSAGE VARIABLES

Category of Message Variables	Sub-categories	Specific Factors
Content variables	Stylistic variables	Speaking skills 1. Faulty grammar, poor organization, pauses 2. Dynamic vs. subdued delivery style 3. Metaphorical vs. Literal Expression
	Appeals	1. Fear Appeals 2. Rational vs. Emotional 3. Goal-instrumental
Structural variables	Inclusions and Omissions	1. Treatment of opposition arguments 2. Implicit vs. Explicit conclusions 3. Repetition of persuasive message
	Organisation of Message Content	1. Ordering content for desirability 2. Primacy-Recency

Based on McGuire, William, "Persuasion, Resistance and Attitude Change" in Handbook of Communication, Pool et al., eds. (Chicago: Rand McNally, 1973), pp. 233-7.

The formulation of functional theorists that a person's attitude toward an object is a composite of his perception of how the object facilitates attainment of various goals and how highly he evaluates those goals, is highly relevant to the question of appeals to be used in message content. This formulation has generated much interest and resulted in formulation and testing of models of attitude structure both in behavioral science and marketing. However, the question of identification of the goals (motives, values) and their use in communication appeals has been largely ignored. It is this question which is the primary concern of the present study.

The formulation, (1) that an individual's behavior is influenced by his attitude towards the relevant object, and (2) that his attitude as well as behavior are influenced by his values (motives or goals), and his perception of instrumental relationships between the object and the values, has its theoretical and philosophical basis in the field theoretic concepts of Kurt Lewin (Deutsch, 1968). Cognitive consistency theorists further hold that an individual strives to maintain a state of perceived consistency among his beliefs, attitudes, values and behavior. Any discrepancy among the cognitive and behavioral system variables is psychologically painful and an individual strives to reduce it (Heider, 1958; Osgood & Tannenbaum, 1955; Festinger, 1957; McGuire, 1960). Rokeach has recently provided a systematic and detailed statement of cognitive-system variables, and has emphasized the central role that an individual's value system plays in it (Rokeach, 1973). There is evidence that attitude and behavior can be altered by modifying an individual's value system or his perceived instrumental relationships between attitude-object and

values (Katz, 1960; Carlson, 1956; Rokeach, 1973). Thus, if an individual's values and perceived value-instrumentalities have such an important influence on his attitudes and behavior, persuasive-communication appeals must reflect the values of the individual if they are to be effective in influencing his attitudes and behavior. An appeal that is based on a more centrally held value and on its positive instrumentality with an object is more likely to result in a favorable attitude towards that object than an appeal based on a less centrally held value. It is, therefore, important to identify and understand the value system of a target population in order to attempt attitude and behavior modification. Since values and perceived value-instrumentalities differ across cultures and even subcultures, these must be uniquely determined for each homogenous group of people. While no broad guidelines, as in the case of message-structure variables, can, therefore, be expected, a methodology that systematically generates a target population's value-hierarchies, their perceived value-instrumentalities of object or behavior in question, as well as their attitudes toward the object and other relevant information, would be a useful contribution to this applied field of social marketing. This study attempts to develop and test such a methodology of generating information useful for selecting communication appeals.

Expected Contribution of the Research

The present study belongs to the category of applied research. It examines and interprets theoretical formulations in the behavioral sciences, specifically social psychology, from the problem-orientation of selecting communication-appeals for a social marketing program; and

develops a vehicle (methodology) for application of knowledge from behavioral science to help promote socially desirable programs (like family planning). It also presents a segmentation framework for formulating communication strategies. The most important customer of this research is the social marketer, the manager of social marketing programs. The output of this research--an approach and methodology for designing communication appeals--should, therefore, not only be useful to him, but it should also be feasible for him to use it within the constraints under which program managers generally operate.

This research is relevant to at least two other important issues. First, it examines relationships among the entire hierarchy of cognitive system variables--values, perceived value-instrumentalities, attitude--cognitive, affective and conative (intention)--and behavior. To our knowledge values and value-instrumentalities have not been included before in an examination of cognitive system relationships. Second, methodologies for measurement of values, and value instrumentalities are only recently beginning to emerge; this research contributes towards development of such a methodology. Other contributions of the research include (i) substantive communication appeals for promoting family planning among an Indian sub-culture, and (ii) an approach to understanding value-orientation and sources of attitude towards products among consumers, with potential application in the commercial marketing field for value-segmentation and product-positioning.

CHAPTER II

DEVELOPING COMMUNICATION APPEALS: THEORETICAL FOUNDATIONS

In the introductory chapter a brief mention was made of the pervasive influence of values on attitudes and behavior. The need to understand the value system and perceived value-instrumentalities (of attitude-objects) of a target population for influencing the attitudes and behavior of its members was also emphasized. This chapter considers the theoretical foundations of the hierarchy of behavioral and cognitive system variables with the objective of providing support for the approach taken in this study. Specifically, theoretical basis is provided for using: (i) values and value-instrumentalities as sources for selecting appeals for persuasive communications, (ii) cognitive-consistency approach as the basis for message-strategy, and (iii) a segmentation framework based on behavior, intention and attitude as segmenting variables for appeal strategy. A brief review of systematic positions in communication theory is presented first.

Models of Communication: A Brief Review

There is an impressive body of literature concerning communication theories and research, inside and outside of marketing. While different traditions have focused on different aspects of communications, almost all emphasize, in varying degrees, both the "process" and the

"effects" of communications. We shall briefly review some of the important formulations of communication theories.

(1) The hierarchy of effects model, as conceptualized by Lavidge and Steiner (1961), is essentially a process model that assumes a chain of cognitive (awareness, knowledge), affective (liking, preference), and conative (conviction, purchase) stages through which the receiver (of communication) passes. This focus on process is shared, as can be seen in Table 2, by most other models of communication, and has permeated much of the communication and advertising research. While this hierarchic-model provides an attractive and useful framework, it is not to be viewed as a one way flow of progression from message reception to behavior. As has been pointed out by Palda (1966), these stages need not be unidirectional, and are not always either necessary or sufficient for subsequent stages.

(2) Innovation adoption models, developed in the field of rural sociology, view the adopter as moving through a series of stages--awareness, interest, evaluation, trial and adoption (Rogers, 1962). These models recognize that different kinds of communications like impersonal (mass-communication) and personal (interpersonal) vary in the importance of their roles at different stages of adoption hierarchy (Rogers and Shoemaker, 1971). At micro-level the final stage in the communication effects hierarchy is adoption, at macro-level it is diffusion. These approaches recognize the effects of social and psychological mediating variables (Rogers, 1962; Arndt, 1967).

(3) McGuire's communication-persuasion process framework analyses "communication (independent-variable side of the attitude-change process) into five classes of components, and being persuaded (the dependent variable side of the process) into six behavioral steps" (McGuire,

TABLE 2

MODELS OF COMMUNICATION

Models	Cognitive Stage	Affective Stage	Conative Stage
"AIDA" Model Strong (1925)	Attention	Interest Desire	Action
"Hierarchy of Effects" Model Laridge & Steiner (1961)	Awareness Knowledge	Liking Preference	Conviction Purchase
"Innovation Adoption" Model Rogers (1962)	Awareness	Interest Evaluation	Trial Adoption
"Communication-Persuasion Process" McGuire (1973)	Attention Comprehension	Yielding Retention	Overt Behavior
"Theory of Buyer Behavior" Howard & Sheth (1969)	Attention Comprehension	Attitude	Intention Purchase

1973, p. 219). The five components of communication process, based on who says what to whom, via what medium, and with what effect, are: source, message, channel, receiver and destination. The six successive behavioral steps are: "Being presented with the communication (presentation), attending to it (attention), comprehending its content (comprehension), yielding to it (yielding), retaining this new position (retention), and acting on the basis of it (overt behavior)" (McGuire, 1973, p. 221). The resultant-matrix of the components and the behavioral steps provides a very useful framework for evaluating the efficacy of a communication campaign, as well as for designing persuasive communications.

(4) The Howard-Sheth theory of buyer behavior, (Howard-Sheth, 1969) includes search, attention, comprehension, attitude and intention as part of the buyer behavior process. More recently, Howard & Hulbert (1973) have presented a more information-processing-oriented approach that includes processes of short and long term memory.

In addition to the above-mentioned systematic treatments, individual variables like attention, perception, memory, or attitude have been studied by psychologists. The original cognitive-affective-conative paradigm, the precursor of the hierarchy of effects and other models was provided by models in psychology (Brown, 1965; Krech, Crutchfield and Bal-lachy, 1962). Mass communication researchers have also renounced the "hyperdermic effect," "one step flow" model in favor of "two step flow" (Katz and Lazarsfeld, 1955), and "multi-step flow" (Rogers and Shoemaker, 1971) models which recognize social factors like word-of-mouth, and psychological factors like selective attention, perception, and retention that mediate between exposure to a communication and its effects.

The preceding review clearly suggests that design of communication campaigns should take into account the process variables commonly conceptualized as cognitive, affective and conative stages. These process variables can serve as criteria or objectives for communication messages. At macro-level these process variables can serve as criteria for segmenting a target-audience and designing appropriate communication campaigns for each of the segments. We deal with this segmentation approach in the next section.

Segmentation Approach

Communication theory and research suggest hierarchical process models as frameworks for formulating communication strategy. It seems useful to identify the stage (in this hierarchy) at which one's target population is, segment it on that basis and design messages and employ media accordingly. Theoretical support for segmentation by level of audience awareness and interest also comes from Cartwright's analysis of the influence process (Cartwright, 1949). According to Cartwright:

What happens psychologically when someone attempts to influence the behavior of another person? The answer, in broad outline, may be described as follows: To influence behavior, a chain of processes must be initiated within the person. These processes are complex and inter-related, but in broad terms they may be characterized as (i) creating a particular cognitive structure, (ii) creating a particular behavioral (action) structure. In other words, behavior is determined by the beliefs, opinions, and "facts" a person possesses; by the needs, goals, and values he has; and by the momentary control held over his behavior by given features of his cognitive and motivational structure. To influence behavior "from the outside" requires the ability to influence these determinants in a particular way.

Most models of communication process recognize these stages. We have,

therefore, used variables that reflect these stages as the criteria variables for segmenting the target population for formulating communication objectives and strategies. A schematic representation of the approach is given in Figure I.

While there is considerable theoretical support in the models of communication for this segmentation approach, it should be borne in mind that sometimes some stages may be skipped or that reverse effects--behavior affecting attitude--may exist. These, however, do not reduce the usefulness of the hierarchical approach (O'Brien, 1971), for the task of designing messages for influencing behavior, intervening stages must be taken into account. From a pragmatic viewpoint, such a segmentation approach is highly attractive and the wide popularity of hierarchical approach for setting communication objectives and designing strategies confirms its pragmatic appeal (MSI, 1968; Cooke, 1966). Marschner (1971) goes so far as to treat a company's use of chain of communication effects as prescribed by DAGMAR (Colley, 1961) to evaluate its advertising, as an index of its potential for success. He supports his contention with high correlations across nine oil companies between the extent to which each used DAGMAR and three financial indices of its success.

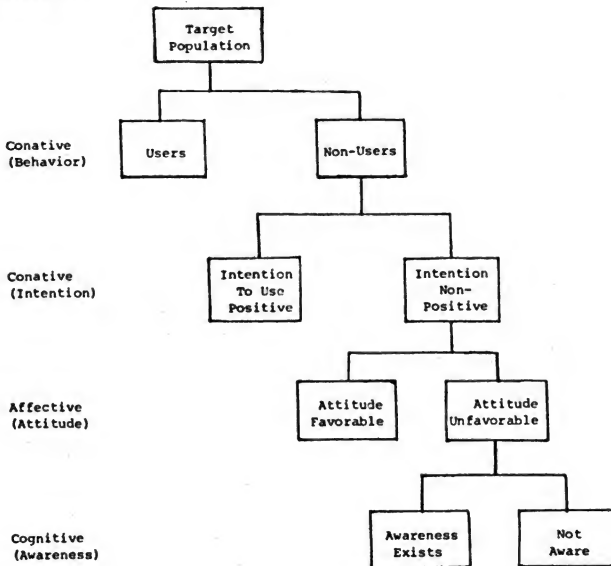
Values and Value-Instrumentalities as Sources for Communication Appeals

It was pointed out in the introductory chapter that the problem of determining the nature of appeals for communication-message-content has not been investigated systematically, with the exception of fear appeals. One possible reason for this lack of interest could be that

Figure 1

Segmentation ApproachCriteria
Variables

Segments



appeals for message-content depend on the nature of the issue or product about which communication is being designed. Thus, being situation-specific, a large variety of appeals are employed and they do not lend themselves to a systematic investigation. However, to be successful in influencing the attitude and behavior of an audience, the importance of showing a positive connection between the object or behavior being promoted in the communication and the audience's "goals," "needs," "motives," or "values," has long been recognized (Cartwright, 1949; Katz, 1960; Rosenberg, 1960).¹ An individual's "goals," "needs," "motives," or "values" and his perception of the relationship between these and an object (or behavior) would thus appear to be instrumental in determining his attitude toward that object. Although their importance has been recognized by researchers in behavioral sciences and in marketing, these values and their perceived instrumentalities have rarely been studied and investigated as sources of attitude structure.¹ The only attempts in this general area have concentrated on identifying motives and needs through projective techniques, group discussions etc., and generating items for attitude scales.

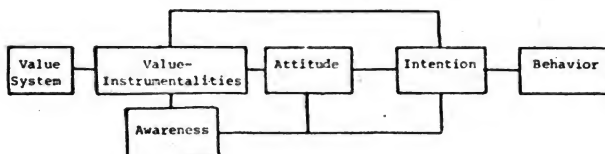
In this study, where our concern is with the development of a systematic approach and a methodology for generating and selecting potentially effective communication appeals, we explicitly recognize the central role of values and perceived value-instrumentalities in determining the attitudes and behavior of our target-population. We, thus, reach back into the cognitive system of target population for

1. A notable exception is Carlson's study of value-instrumentalities and attitude change (Carlson, 1956).

sources of attitude and behavior. This view of cognitive system is shown in Figure 2.

Figure 2

Cognitive System



We have chosen "values" rather than "needs" or "motive," and we have posited relationships between values and attitudes, and, values and behavior. In the following section we provide the theoretical and empirical support for this formulation.

The Nature of Values and Value Systems²

The concept of value (as a criterion a person has and uses for making evaluation) has been employed by many in the social sciences (Allport, Vernon, and Lindzey, 1960; Kluckhohn, 1951; Kluckhohn and Strodtbeck, 1961; Maslow, 1959, 1964; Charles Morris, 1956; Brewster Smith, 1969; Robin Williams, 1968; Woodruff and DiVesta, 1948); however, Rokeach has provided the most thorough and systematic formulation of the nature of human values to date. Rokeach defines value as an "enduring

²This section is based on Rokeach's formulation in Chapter 1 of: Rokeach, Milton., The Nature of Human Values, New York; 1974.

belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence." A value system, according to Rokeach, is "an enduring organization of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance." The enduring quality-stability of values arises from the absolute learning of values in isolation from other values. At the same time, however, there is a relative quality of values. When one value is salient it is regarded as absolute, without remembering others. But when one value is activated along with others in any situation, the relative importance of these competing values influences the (behavioral) outcome. A value is a prescriptive belief, "a belief upon which a man acts by preference" (Allport, 1961, p. 454).

Terminal and instrumental values: Rokeach defines beliefs concerning desirable end-states of existence as "terminal values" and those concerning desirable modes of conduct as "instrumental values." This distinction is between means-and ends-values. Terminal values--end-states of existence--can be personal (self-centered) or social (interpersonal). People may vary in the relative importance they place on personal versus social values, and their attitudes and behavior may also differ on the basis of their priority-structure of these two types of terminal values. Similarly, instrumental values--modes of conduct--are of two types: moral values and competence values.

The number of values humans possess is assumed to be small. Rokeach suggests that there are perhaps a dozen and a half terminal values and several times that number instrumental values--five or six dozen. The idea that there are only a certain number of end-states of existence and many more, but limited, number of modes of behavior instrumental to their attainment, is intuitively appealing.

Functions of Values: Values and value systems are seen as serving essentially two kinds of functions. First, values serve as standards that guide daily activities, and value systems, as learned organization of principles and rules, help choose between alternatives, resolve conflicts, and make decisions. Thus, values predispose us to prefer positions and ideologies, guide our presentation of self to others, evaluate own and others' actions, make comparisons, influence others, and finally, enable us to rationalize our beliefs, attitudes and actions that would otherwise be personally and socially unacceptable, and help maintain and enhance our self esteem. Second, values give expression to human needs. These are motivational functions of values. Values are motivating not only because terminal values represent the desired end-goals to strive for, and instrumental values represent idealized modes of conduct for attainment of such goals; but also because they maintain and enhance the master sentiment of self regard. This is done by (i) helping a person adjust to his society (adjustive function), (ii) defending his ego against threat (ego-defensive function), and (iii) testing reality (knowledge function). These are similar to the functions of attitude in the formulations of attitudes presented by Katz (1960) and Smith, Bruner and White (1956).

Values, Needs, and Motives: "Values," "needs," and "motives" have been regarded as equivalent by some writers in psychology. Maslow, in his hierarchy-of-needs formulation, considers self actualization both as a need and as a higher-order value (1959, 1964). Howard and Sheth use "needs," "motives," and "goals" interchangeably and do not make any mention of "values" (1969). Rokeach, however, distinguishes between values and needs. According to him, if values and needs are equivalent, infra-humans should also be said to possess values, to the extent that they possess needs. This view, however, is not accepted, as demonstrated by the concern for values in studies of human behavior and lack of concern for values in studies of animal behavior. Rokeach postulates that man is the only animal who can be said to possess values. These values can be seen as the cognitive representation of individual needs as well as societal and institutional demands.

Personality traits have long been studied to describe and classify human beings and to explain and predict behavior (Allport, 1961). Howard and Sheth consider personality traits as providing content to motives (1969). The advantage, according to Rokeach, of thinking about a person as a system of values rather than as a cluster of traits is that it enables a dynamic view of him, undergoing change as a result of changes in social conditions.

Values and Attitudes

Attitudes have been widely studied both in marketing as well as in social psychology, whereas values have received relatively little attention. In fact, there is only one study in marketing concerned with values; Roman (1970) investigated values and product concept preferences

(Frank, Massy, and Wind, 1972).⁷ This greater emphasis on attitudes, according to Rokeach, seems to have been due to faster development of measurement methods and perhaps because of lack of clarity in conceptual differences between attitudes and values, and not due to any strong belief that attitudes are more important determinants of behavior than values. Some have seen values to be similar to (Campbell, 1963) or special cases of (Newcomb, Turner, and Converse, 1965) attitudes. The basic difference between attitude and value is that while an attitude is an organization of beliefs around a specific object, situation or behavior, a value is a single belief of a very specific kind (Rokeach, 1973). Values transcend objects, situation or behavior, where as an attitude is focused at some specific object, situation or behavior. Thus, while number of values is limited to the number of learned beliefs a person has about desirable end-states of existence and modes of conduct, attitudes may number in the thousands depending on the number of objects, situations and behavior patterns a person has encountered. A value is a standard and favorable or unfavorable evaluations of attitude-objects may be based on a relatively small number of values serving as standards. Moreover, values occupy a more central position than attitudes in one's cognitive system, and are determinants of attitudes as well as of behavior. This central role of values has been noted by many; Allport (1961) recognized that "attitudes themselves depend on pre-existing social values," and Watson (1966) stated: "attitudes express values," Value is a more dynamic concept with a more immediate link to motiva-

⁷Rokeach has since reported data on value systems of car and detergent consumers.

tion. Finally, substantive content of a value may relate directly to adjustive, ego-defensive, knowledge or self-actualizing functions whereas the content of attitude is related to these functions only inferentially.

Relationship between values and attitudes: The functional relations between values and attitude have, at their core, the concept of perceived instrumentality (Peak, 1955; Carlson, 1956; Rosenberg, 1960). An attitude object is perceived to be instrumental to the attainment of one or more values; a change in an attitude object's perceived instrumentality for one or more values should result in a change in attitude; and strength of attitude and resistance to change would depend on the relative importance of values with which an object is perceived to be instrumentally related. Thus, a subset of values relevant to a given attitude object (behavior or situation) is activated to determine attitude and behavior about that object. This subset of values may vary from one object to another, and from one group of people to another for the same object. A favorable attitude towards contraception, for example, may serve the value of 'comfortable life' in one person and 'children's welfare' in another. An unfavorable attitude towards contraception may serve the value of 'religiosity' and, at the same time, a favorable attitude towards small family may serve the value of 'economic well-being' for the same person. Although the social sciences have not reached a stage of development which permits predicting all the values that might underlie attitude towards a given object, certain kinds of values can be expected to be related to certain kinds of attitudes

and behaviors, specially if they belong to the same social-institutional domain.

Rokeach has presented data which show some subsets or clusters of values to be significantly associated with a wide variety of attitudes concerning civil rights, black militancy, Vietnam, communism, student-protest, religion, church activism and, car and detergent brands (Rokeach, 1973). Functional relations between values and attitudes toward violence among American men have been found by Blumenthal, Kahn, Andrews, and Mead (1972). Katz found that in the long run, attitudes can be changed by manipulating the underlying motivation (value) that is served by the attitude (1960). Rokeach's own experiments on long-term value and attitude change indicate that value change preceded attitude change and that a pattern of change towards value-attitude consistency was noticeable (1973). Carlson's study showed that attitude change could be effected by altering the perceived instrumentality between an attitude object and values it serves, and that such an approach was more effective in bringing about attitude change than one that attempts change in values themselves (1956).

Values and Behavior

Our interest in values and attitudes, both intervening variables, is because of their relationship with behavior. It was earlier suggested that terminal and instrumental values are standards that guide action as well as attitudes. This knowledge of a person's values should enable prediction of his behavior. However, the relationship between values and behavior, as well as between attitudes and behavior, is more complex. Behavior is a function of cognitive interaction between attitude activated

by an object and attitudes activated by the situation within which the object is encountered. Both these kinds of attitudes are functionally related to a subset of values that are activated by the attitude object on the one hand, and the situation on the other. Rokeach has reported data that show significant relationships between different subsets of values and a wide range of behaviors (1973). Moreover, long term behavioral effects of value changes which support the value-behavior relationship have also been reported by Rokeach (1973).

Much has been written about relationship between attitude and behavior and between attitude change and behavior change. While attitude-behavior relationships are controversial, there is growing evidence that attitude mediated by intention and situational variables is strongly related with behavior (Sheth, 1970, reported in Engel, Kollat, and Blackwell, 1973). There is considerable theoretical support for attitude behavior relationship and empirical evidence for it, though not unequivocal, is sufficiently supportive (Day, 1972; Engel, Kollat, and Blackwell, 1973).

We have devoted the foregoing section to values and their relationship with other variables in the cognitive system. We have not dealt with other variables like 'intention' and 'awareness' and their relationships, although they have an important role in the cognitive system as we view it. The tri-component approach of 'attitude' - cognitive, affective, and conative (intention, behavior) on the one hand and process models of communication mentioned earlier provide a strong theoretical foundation for these. We have, purposely, concentrated on those variables - values and value-instrumentalities - which represent a departure from formulations that have been previously employed and tested.

This is not to say that attempts have not been made in the past to reach beyond attitudes to more central, higher-order variables. Indeed the role of 'motives' and 'needs' has been recognized for at least as long as that of 'attitudes'. However, the problems of measurement and conceptual clarification of motives and needs on the one hand, and failure of 'motivation research' in marketing to provide systematic and reliable insights on the other have perhaps been responsible for lack of attention paid to these more central variables. Values, as cognitive transformations and representations of need, seem to be potentially useful variables that reach back into cognitive system for understanding sources of attitudes and behavior patterns.

Process of Change

Our discussion of the cognitive system has implicitly assumed that an understanding of its different variables is somehow useful not only in understanding behavior and attitudes but also in forming and modifying them - our primary interest in this applied field of social marketing. We make this assumption explicit in this section as we turn our attention to the processes underlying cognitive and behavioral changes. We briefly present our strategy for the change process and then provide theoretical support for the same.

Our strategy for intervention calls for highlighting inconsistency in the cognitive system of target population, either by creating inconsistency, or making salient any inconsistency that may already exist. Thus, inconsistency between attitude (favorable) and behavior (non-practice of contraception), between attitude and intention, between values and beha-

avior, value instrumentalities and attitude-behavior etc. can be highlighted using the information about the target population's cognitive system. Inconsistency can also be created by using a source towards whom the receiver has favorable attitude, to advocate a position discrepant from that of the receiver (Kelman, 1961).

Such data-based intervention derives its rationale from cognitive consistency approach. The underlying reasoning is that human beings strive for consistency within their cognitive system and, between their cognitive system and overt behavior, and that any inconsistency is a motivating force that results in modification of their behavior and/or cognitive system variables to restore consistency. For example, a communication that highlights positive instrumental relation between contraception and the value of 'family security' is likely to cause psychological tension among those who hold this value but have unfavorable attitude toward contraception. This tension, caused by the inconsistency between a value and attitude, should result in a modification in the individual's cognitive system, usually change in attitude rather than value which is more centrally held. And the favorable attitude, in due course, could motivate desired behavior - practice of contraception.

Consistency theories: What has been mentioned above is the basic tenet of cognitive consistency theories, of which there are three major formulations. These are (1) Heider's balance theory (1958), (2) Osgood and Tannebaum's congruity theory (1955), and (3) Festinger's dissonance theory (1957). They find their theoretical basis in the field theoretic concepts of Kurt Lewin. The balance theory is concerned with the state of imbalance and seeking of balanced relations among cognitions, con-

gruity theory is concerned with incongruity and striving for consistency among attitudes, and dissonance theory is concerned with dissonant cognitions and reduction of dissonance. While dissonance theory is the most flexible and has generated the most empirical research, they all share the same fundamental assumption that there is a tendency towards consistency.

Functional approach: Support can also be derived from the functional approaches of Katz (1960), Smith, Bruner, and White (1958), and the related formulation of Kelman (1961). These functional approaches to attitudes are concerned with the motivational underpinnings of attitudes. According to them, the same attitude may be held by different people for different reasons (motivational bases), and therefore techniques for changing their attitudes should also be different. This supports our approach of using the relevant values and value-instrumentalities of different subgroups as sources for communication appeals. The utilization, knowledge, and value expressive functions of attitudes as posited by Katz (1960) are the manifestations of values into attitudes and underscore the need for consistency between values and attitudes. Kelman's approach is somewhat different in that he recognizes three different processes of social influence: (i) compliance, (ii) identification, and (iii) internalization. While all three require consistency within cognitive system (including attitude toward source), the last one - internalization - explicitly recognizes the role of consistency between value system and attitudes in bringing about modification in cognitive systems and behavior (1961).

Behavioristic approaches do not recognize cognitive system variables as intervening influences on behavior and thus cannot be cited to

support our approach.

Summary of Approach

We have presented, in this chapter, theoretical bases for a value-oriented approach of cognitive consistency for selecting communication appeals. We have also presented a segmentation framework for determining appropriate communication strategies. We now summarize these by presenting a framework for communication intervention. The framework is designed to take care of different situations depending on the state of target population's cognitive system variables. Table 3 illustrates four such situations and indicates the communication objectives for each depending on the level at which intervention is required in the hierarchy of cognitive system variables. These are briefly discussed below.

TABLE 3
FRAMEWORK FOR COMMUNICATION INTERVENTION

Communication Objective	Situations			
	#1 Reinforce behavior	#2 Reinforce intention, provide method information	#3 Alter conative attitude	#4 Alter conative and affective attitude
Values	+	+	?	?
Value Instrumentalities	+	+	?	?
Practice	+	-	-	-
Intention	+	+	-	-
Attitude	+	+	+	-
Awareness	+	+	+	+

Key: + Positive, - Negative, ? Not known

(1) Situation one involves a target population segment that practices family planning. In this case a communication strategy aimed at reinforcing behavior and using relevant values and instrumentalities is needed to reduce any dissonance and strengthen consistency in the cognitive system.

(2) The second situation depicts non-practitioners of family planning who nevertheless have positive (favorable) intention, attitude and awareness, and share values and instrumentalities consistent with family limitation. This calls for an examination of inhibitors - reasons-for not practising family planning; it is possible that some of these people who intend to use a terminal method are awaiting completion of their desired family size. A strategy aimed at reinforcing their intention and favorable attitude by emphasizing their values and instrumentalities, and providing information about methods and services to facilitate a swift and smooth culmination of positive intentions into practice is appropriate here. A small family size ideal may also need to be emphasized.

(3) In the third situation the target segment although have a favorable attitude towards family planning, they neither practice it nor intend to practice it in the future. Their values and value-instrumentalities may or may not be positively related to family planning. The situation requires a change in the conative attitude - intention for moving the segment towards practice, and an examination of the segment's values and value instrumentalities, along with that of inhibitors, should provide an insight into the source of negative intention. If the cognitive system is consistent with family planning, inconsistency between that and negative intention should be highlighted, while dealing with specific

inhibitors that may be responsible for negative intention.

(h) The fourth situation represents the most difficult and challenging task. This may represent a situation with values that are inconsistent with family planning, or values that need not be inconsistent but are perceived as having negative instrumental relationship. Another situation that this may represent involves consistent values and positive instrumentalities but negative attitudes.

The situation involving consistent values and positive instrumentalities but negative attitude calls for highlighting cognitive inconsistency by making the positive instrumentalities salient. The situation with negative instrumentalities requires an attack on the perceptions of value-instrumentalities - these would have to be altered by promoting positive instrumentalities using attractive, credible and potentially effective sources. Finally, negative values, i.e. inconsistent with family planning, require modification in value system by highlighting internal inconsistency of value system. This is the most difficult situation and would require a long time to accomplish success (Katz, 1960; Rokeach, 1973). For pragmatic reasons, an investment in a communication program for such a task may not be useful. Instead, a more generalized effort, not specifically related to family planning, may be mounted to influence values. Family planning communication appeals are more likely to be effective if they are based on existing value systems, rather than by attacking or altering them. For all the above mentioned situations, appeals drawn from the relevant segment's values and value-instrumentalities are likely to be potentially effective.

CHAPTER III

THE METHODOLOGY

Requirements of A Methodology

Our task, in this research, is to develop and test a methodology for applying the approach discussed in the previous chapter for selecting potentially effective communication appeals. Our concern here is with a methodology for data-collection.

Such a methodology should be capable of providing a description of the relevant cognitive-system, behavioral, and socio-demographic variables of the target population. Specifically, it should:

- (1) obtain measures of communication process variables - awareness, attitude, intention, and behavior, for identifying segments and formulating strategies;
- (2) elicit the value systems of target populations;
- (3) ascertain the target population's perceptions of instrumental-relations between their values and the attitude object or behavior to be promoted, e.g. family planning;
- (4) determine the pattern of influences on their values and behavior; and
- (5) provide a description of demographic and socio-economic status of target populations, as well as that of their media habits.

In addition, it should meet the following requirements:

(1) It should have cross-cultural applicability. It should be capable of obtaining all the measures mentioned above, including values, in cultures or subcultures totally unfamiliar to the communications expert.

(2) The instruments used should produce 'value-free' or unconstrained responses. Conventional attitude measures, for example, place constraints on responses by pre-selecting objects and/or dimensions on which evaluation is desired.

(3) The methodology should be free of possible biased influences, particularly those of the researcher. The techniques of unstructured 'group discussion' and 'depth interviews' are, for example, susceptible to strong biased influences at the data collection and interpretation stages.

(4) It should allow for the use of standard sampling procedures such that data collected from samples can be representative of the population under study. Many projective techniques are administratively difficult and prohibitively expensive for use on large and representative sample sizes.

(5) The methodology should be simple to use both from the point of view of the data collection and analysis. Thus, it should be possible to use it by training interviewers normally available for such work in different parts of the world - such people usually do not have special skills or much experience. Its analytical requirements should also be relatively simple, since specialized statistical methods and computer

programs as well as personnel with such skills are not usually available. At the same time, the data generated should lend itself to sophisticated analyses.

Proposed Methodology

For pragmatic reasons the vehicle chosen for data-collection is question-answer (interview) session conducted by trained interviewers. Measures are therefore based on respondent's self-reports. As far as measures of demographic, socio-economic and media variables are concerned standard questions can be asked. Similarly, valid measures of attitude, intention, awareness and behavior have been developed through years of research in behavioral sciences and marketing (Fishbein, 1967; Engel, Kollat, and Blackwell, 1973). We will briefly describe these, before taking up the measures of values, value-instrumentalities and sources of influence. A description of socio-demographic measures is provided in the next chapter. However, first a comment about scale of measures.

Scale of Measurement

One of the important considerations for such a methodology is its usefulness across different cultures, among diverse populations with a wide range of characteristics in terms of their literacy and education levels, degree of exposure to the world outside their immediate environments, and ability for making abstract judgements. This methodology is likely to be potentially most useful in economically underdeveloped societies with the most need for social marketing programs, societies

that are characterized by wide spread illiteracy, very limited exposure to events and ideas outside members' sphere of experience and little experience in making fine gradations of judgements. For this reason, we have shown, in our choice of measures, a strong preference for those that make minimum assumptions about respondent's ability to make fine gradations in their judgements. This means that we have preferred nominal scales to ordinal, interval or ratio scales. As will be seen in the next chapter, this preference is vindicated by results obtained in the study.

Measures of Awareness, Attitude, and Intention

These measures are obtained by asking the respondent if he (she) is aware of the object (e.g. family planning methods), approves of their use, and intends to use such methods in the future, respectively. For measures of attitudes - the affective component - and intention, Likert-type scales are popular in marketing research, usually extending to five levels ranging from strongly positive to strongly negative disposition. These are rejected in favor of the simpler binary measure for the reasons mentioned above.

For beliefs - the cognitive component of attitude - a Likert-type scale, ranging from strongly agree to strongly disagree (five categories) is used with stimuli consisting of statements reflecting beliefs covering important dimensions of the attitude object (family planning) chosen from previous studies and other literature (e.g. 'birth control is against religion'). The choice of Likert-type scale, influenced by its interval scale measures, is not, however, without some reservations

in view of the assumptions about respondent's ability to make fine-judgements.¹

Measures for Values and Value Instrumentalities

Measures for values and value-instrumentalities are of primary concern here. Such measures have not been used, nor developed in the context of marketing research. Even in behavioral sciences, relatively little work has been done on measures of values and value systems. We first briefly review the nature of value-measures that have been developed and alternate approaches taken in marketing to measure sources of attitudes. We then present the measures we propose.

A review of current practices: As mentioned in the previous chapter, attempts in marketing to reach beyond attitudes in the cognitive system have consisted of obtaining measures of relevant motives of target population. These took the form of 'motivation research' in the fifties and sixties, and currently find some acceptance in the form of 'psychographics'. The former usually consisted of some projective techniques, most commonly 'group discussions' (also known as 'focussed group sessions') and 'depth interviews'. Psychographics, on the other hand, involve ratings on a variety of middle range manifestations of personality traits that are felt to be relevant to the issue or object of interest (Ziff, 1971). Sometimes, psychographic statements are generated with the help of 'group discussions' and 'depth interviews', which are also used to generate statements for beliefs - the cognitive component of attitude.

¹As will be seen in Chapter IV, the use of interval scale measures for beliefs was not very successful, confirming the reservations mentioned above.

In both kinds of methods mentioned above, the object of interest is the focus of interest and measurement. This puts constraints on the responses - in that it generates only those motives that are activated by the object. These do not provide an understanding of complete set of motives and their hierarchy, and they do not measure values, as discussed in the previous chapter, since values are cognitive representations of motives and needs. These methods may be satisfactory with commercial products and services, where the beliefs about such products are usually lower order beliefs. In social marketing, beliefs about objects of interest (e.g. family planning, food habits, etc.) are higher order beliefs, closely related to more central values. Thus, it becomes important to understand the value hierarchies of target populations, not only to understand the values considered relevant to the object (family planning), but also to examine possibilities of linking the object to some of the more central values currently not seen as relevant by the target population. The importance of this will be underscored in Chapter VI when we consider the data collected on values and instrumentalities from the point of view of developing persuasive appeals.

Among other disadvantages of 'motivation research' approaches are that, (i) their use often requires specialists for data collection and interpretation, not easily available to administrators of social marketing programs; and more importantly, (ii) these methods are administratively and financially prohibitive for use on representative samples of population. Moreover, these suffer from the problem of biased influences. However, our interest, in any case, is in measure of values and value systems and their instrumentalities, and not in those of motives

or needs. We consider alternative measures for values before presenting the ones we use.

Requirements of value measures: Before considering the measures developed and used by researchers, it is useful to elaborate on our requirements. Our interest in measures of values, as well as those of other cognitive system variables, is for the purpose of developing persuasive-communication-appeals. Thus, while we are interested in basic value-dimensions of our target populations, we are equally interested in their manifestations as described by the target populations. This is because we wish to use their frames of reference, even their expressions and phraseology wherever possible, and minimize the loss between encoding (by communicator) and decoding (by audience) of message. We are therefore interested in respondents' own descriptions of their values - manifested as hopes and concerns and modes of behavior. Secondly, we do not wish to preselect value-dimensions since different cultures may share different value systems, and even if there were a global set of values common to all mankind, their manifestations can, and indeed must, be different. These considerations strongly suggest that value-dimensions, for our purposes, would best be generated empirically.

Two methods of value research: Two systematic methods of value research developed and used in the behavioral sciences are credited to Allport, Vernon, and Lindzey (1960), and Rokeach (1973). The former concentrates on certain values representing end-states grouped as 'social', 'political', 'economic', 'theoretical', and 'aesthetic'. For each group, there are a number of statements to which the respondent is exposed and he is asked to indicate his extent of concurrence with it. Rokeach's

'Value Survey' consists of 18 terminal and 18 instrumental values presented along with a brief description to respondents who are asked to rank the 18 values by rearranging their order. (The physical procedure consists of removing the preguessed labels and pasting them on the left-hand side sheet in order of importance.)

The first method, Allport et al's 'Study of Values', is highly restrictive in the dimensions it covers - it leaves out instrumental values - modes of behavior - completely. Both methods use pre-selected items (dimensions), and both were developed on the basis of studies of American values. Neither method allows for eliciting the manifestations of values. Rokeach's method requires that respondents be able to read. A list of values used in Rokeach's value survey are given in Table 4. The requirements of these methods, their doubtful cross-cultural utility, particularly among rural, illiterate populations, and their general lack of versatility in terms of ascertaining different dimensions and their manifestations indicate that we must turn elsewhere for our requirements.

Proposed Measures

The requirements discussed above lead us to the "projective survey question," also known as the "reverse attitude scale question," first used by Bavelas (1942) but more recently used in the development of techniques for studying socialization (Rice, 1960) and value research (Bridge, 1969; Barthol and de Mille, 1969; Barthol and Bridge, 1968). In traditional attitude research, the investigator preselects an object of evaluation and asks the respondent to indicate his evaluation of this object. In projective survey question, the research assigns the evaluation and asks the respondent to cite an example of an event or behavior which carries

TABLE 4
VALUES INCLUDED IN THE ROKEACH VALUE SURVEY

<u>Terminal Value</u>	<u>Instrumental Value</u>
A comfortable life (a prosperous life)	Ambitious (hard-working, aspiring)
An exciting life (a stimulating, active life)	Broadminded (open-minded)
A sense of accomplishment (lasting contribution)	Capable (competent, effective)
A world at peace (free of war and conflict)	Cheerful (lighthearted, joyful)
A world of beauty (beauty of nature and the arts)	Clean (neat, tidy)
Equality (brotherhood, equal opportunity for all)	Courageous (standing up for your beliefs)
Family security (taking care of loved ones)	Forgiving (willing to pardon others)
Freedom (independence, free choice)	Helpful (working for the welfare of others)
Happiness (contentedness)	Honest (sincere, truthful)
Inner harmony (freedom from inner conflict)	Imaginative (daring, creative)
Mature love (sexual and spiritual intimacy)	Independent (self-reliant, self-sufficient)
National security (protection from attack)	Intellectual (intelligent, reflective)
Pleasure (an enjoyable, leisurely life)	Logical (consistent, rational)
Salvation (saved, eternal life)	Loving (affectionate, tender)
Self-respect (self-esteem)	Obedient (dutiful, respectful)
Social recognition (respect, admiration)	Polite (courteous, well-mannered)
True friendship (close companionship)	Responsible (dependable, reliable)
Wisdom (a mature understanding of life)	Self-controlled (restrained, self-disciplined)

Source: Rokeach, Milton, The Nature of Human Values (New York: Free Press, 1973), p. 28.

this valence in his personal value hierarchy, thus, hopefully, reducing the biases and constraints. Recently, a survey technique for cross-cultural value research called "ECHO method" has been developed utilizing the projective survey type of questions (Barthol & Bridge, 1968; Milburn, Barthol and de Mille, 1968). We adapt the ECHO method for obtaining information about the belief and value systems and the pattern of influences prevailing among the target population. We modify the ECHO method and further develop it for ascertaining instrumental relationships between the values of the target population and the object/behavior of our interest. To our knowledge, such a methodology for value research has not been used before to generate communication appeals.

We now briefly describe the ECHO method.

ECHO Method: A brief description²: According to Bridge (1969), there are three basic processes to the ECHO methodology; question selection, data collection, and data classification.

(1) Question Selection. The basic unit of ECHO data is an oral or written response to a projective survey type of question. One of the most frequently used question designed to discover behavioral norms and perceived sources of social reinforcement is:

"What is a good/bad thing that a person like you could do? and

Who would approve/disapprove of it?

There are five variables in the above question, and a sixth variable can be added. These are:

²This section is based on Bridge, R. Gary, "The Utility of ECHO Surveys in Cross-cultural Research on Values", Contribution to the symposium presented at American Psychological Association, Washington, D.C., 1969. Mimco; and Barthol, R.P and R. de Mille, "Project ECHO: Final Report", General Research Corporation, 1969.

- a. Role assignment (of the respondent) - "a person like you."
- b. Event - "a thing to do."
- c. Valuation of the event - "good/bad."
- d. Reinforcement - approve/disapprove.
- e. Source of reinforcement or causation.

A sixth variable - "additional context" - can be added to restrict responses to a given context. For example, "What is a good thing that a person like you could do for your country" adds the context of country to the question.

Another important version of the ECHO question is:

"What is a good/bad thing that could happen to a person like you" and "What or who is likely to cause this to happen?"

By manipulating these six variables, the researcher can tap different dimensions of the respondents' values. As can be seen, the method does not presuppose any previous knowledge about the target group's values. There are two main assumptions, the first being that people maintain a relatively stable cognitive hierarchy (ranking) of preferences -- that they can at least trichotomize events and behaviors as good, bad, or neutral. The second assumption is that preferences can be verbalized. A tertiary assumption is that individuals will be more likely to generate behaviorally relevant material when placed in unstructured situations. This is also the assumption made with other unstructured techniques like "group discussion" as well as projective techniques.

(2) Data Collection. After the questions have been decided upon, the form of the data collection instrument most appropriate to the population is chosen. The instrument in most cases consists of ten positively and ten negatively valenced questions of a singly type ("to do" or "to

happen"). The form to be used depends on the literacy level and the captive or non-captive nature of the audience to be surveyed. There are basically three data collection methods: (1) group-administered questionnaires, (2) oral interviews, and (3) self-administered questionnaires. The evidence suggests that all the three methods work well, although they do not always produce exactly equivalent data (Barthol and de Mille, 1969).

(3) Data Classification. The third major step is to categorize the responses to produce a set of value statements and source categories. The source responses (who would approve/disapprove, etc.) are usually classified by staff classifiers, although in the case of data from unfamiliar cultures, it may be useful to have indigenes classify the source responses first.

The value responses are classified by indigenes, as well as staff members. A team of three indigenes are asked simply to "put all of the responses that mean the same thing together." When this is done, they are asked to provide a label--in the form of a descriptive sentence--for each of the response categories they have created.

Staff classification has two main purposes: first, to produce accurately constructed categories that are neither overlapping nor too inclusive, and second to combine the responses of different groups or subgroups.

In the case of "to do" event data, the category titles represent, as Bridge (1969) calls them, "behavioral norms which flow from the values of the group." The categories based on good and bad to happen data, on the other hand, represent hopes and fears which also manifest values. The two types of response categories ("to do" and "to happen") correspond to

"instrumental" and "terminal" values, respectively, as defined by Rokeach.

In the case of "to do" questions, conditionals can be used to elicit exceptions to behavioral norms.

Reliability and validity of ECHO method: The reliability of ECHO method has been shown to be quite satisfactory -- group response reliability as measured by split group correlations has ranged between .70 and .91 for different studies (Barthol and de Mille, 1969).

Concurrent validity of the instrument was checked by presenting value statements derived from one population, along with competing statements from other populations or manufactured statements to the same population. A significant majority of the group selected indigenous statements, indicated that these represented important indigenous values (Barthol and de Mille, 1969).

Predictive validity of the ECHO responses has not been tested; such a test would require a longitudinal study.

Applications of ECHO method: ECHO method has been used in the United States, Uganda, Africa, Thailand, South Vietnam and, in the present study, in India. It has been used in industrial and educational settings, in studies of socialization, as well as cultural descriptive studies of both urban and rural populations. The use of ECHO method for theoretical research, cultural description, and intergroup discrimination has been tested, and its effectiveness has been established. Its potential uses include behavior prediction, training and its evaluation, and developing persuasive and discursive communications.

Suitability of ECHO method: In light of the requirements set forth earlier, it is clear that the ECHO method is a useful technique

for developing communication appeals for social marketing. First, it is capable of eliciting value systems of a population in manifest form. Since these, as we saw in the previous chapter, seem to guide or influence overt behavior, their knowledge can be very helpful in the development of persuasive communications. Secondly, the ECHO technique, through its "source" variable, can ascertain patterns of influences operating in a culture, thus providing useful guidance for the "source" variable in designing communications. Several studies have shown the "source" to be a very important factor in the effectiveness of communications (McGuire, 1969, 1973). Thirdly, the technique, unlike the traditional survey methods and unstructured techniques, does not require preselection of either the object of evaluation or the dimensions on which evaluations are to be made by the respondents. The ECHO questions are more or less context-free. Thus, the responses can be expected to be unconstrained and unbiased, reflecting the values of the target population. The use of both positive and negative forms helps tap more dimensions and generate more representative hierarchies, since these forms, though logical opposites, are not empirical opposites (Barthal and de Mille, 1969). Finally, the method has been shown to be effective in different cultures. The method is reasonably simple and can be used with the help of properly trained investigators and classifiers. The development of computer programs to handle the categorized coded responses makes the processing of data relatively easy and inexpensive. The method, thus, appears to be very suitable for our purposes.

There is, however, one very important piece of information required for developing communication appeals, which is not available

through the ECHO method. This is the perceived instrumental relationship between the values and the attitude-object or behavior which is the subject of persuasive communication. For example, the ECHO survey may indicate that "being able to educate one's children" is a highly- and positively-held value. However, what instrumental relationship--positive, negative, or neutral--the target population perceives, if any, between "education of one's children" (value) and "limiting one's family size through birth control" (the behavior to be promoted) is not known. It is important to know such perceived relations among the target group as they exist for developing persuasive communications. It is, thus, planned to ascertain such instrumental relationships, along with values from ECHO questions.

Extension and modification of ECHO: Value-instrumentalities: There are three different ways in which the conversion of basic ECHO responses into communication appeals can be achieved. The first, and the most elaborate, procedure involves three sequential stages: (1) collection and classification of ECHO responses on both values as well as source questions, (2) construction of scaled questions showing instrumentality between value categories and the behavior or object one wishes to promote, e.g. family planning, and collection of response data on these questions from the target group, and (3) development of messages and choice of appropriate sources based on (a) frequency of mention of values, (b) nature of instrumental relationships between the values and the behavior/object to be promoted, and (c) matching sources with the relevant values -- to be pretested in the form of "finished communications" using fairly standard methods prevalent in the advertising

and marketing fields. The second procedure would be to collapse the second and third stages of the first procedure into one by presenting to the target population a number of messages about the behavior/object to be promoted, which use the more important (i.e. more frequently mentioned) values and reinforcement sources. This involves getting responses on messages which are not presented in the form of fully finished communications, but carry the basic appeals. The third method attempts to save one stage and the time needed for it, and requires collection of ECHO data as well as instrumentality data in the same (first) stage. After the respondent has answered all ECHO questions, he/she is asked to comment on the nature of relationship between each of the values he has mentioned and the object/behavior to be promoted. The instrument we use for measuring perceived instrumentality is illustrated below.³ It was developed after trying several variations. Note that the approach requires an on-the-spot use of data just collected, and to that extent is more difficult. It is more likely to work effectively in oral interviews than with self-administered or mail questionnaires. However, it provides adequate information to develop communications which can then be pretested to choose from three or four final appeals and obtain feedback on the "execution" of the basic messages.

The three procedures discussed above require different levels of resources and time and are likely to differ in their results. The first procedure is the most elaborate one involving maximum time and

³You mentioned that one of the good things to happen is: "children grow up to be worthy" (from the good things mentioned by respondent). Now, do you think 'having many children' is related to it? Does one help the other (make it more likely), hinder it (makes it less likely), or are these unrelated?

cost, and is likely to produce the best results. However, not all social marketing programs can afford such time and cost. The other two procedures offer good alternatives, particularly when time is a limitation. The second method is likely to be more expensive, since a relatively large number of basic appeals would be used to develop that many "communications" for testing. The third method is most appropriate for programs with relatively short time periods available for developing communications. It is also very well divided in two stages. The first stage provides information about beliefs and values, influence patterns, as well as how a particular object or behavior, e.g. family planning, is perceived in the light of all these by a target population. This information, along with other demographic, socioeconomic and behavioral data is adequate for the advertising agency to develop a set of communications.

We have used the third procedure for our research. The first procedure was ruled out in view of the time constraints of dissertation research. Moreover, the research can contribute more if it establishes that the third method works effectively, since it has all the elements of the first method and, in addition, is an attempt to collect all the relevant data in one stage. For the purpose of this research, the second stage of the procedure, i.e. pretesting of communications, was not undertaken. The reasons for this are i) the limited time and resources available for the dissertation research, and ii) the second stage involves use of fairly standard, widely used, and well-developed methods. The contribution of this research is towards the development of the first stage. It can of course, be continued into the second stage, independent of the dissertation, given the availability of resources.

We have described the methodology that we have developed and used. The measures and other details will be described in the next chapter. We have seen that our methodology is suitable for developing communication appeals for social marketing in the light of the requirements set forth at the beginning of the chapter. The remaining chapters describe the field study and the results and report on its performance, and suitability for developing substantive appeals.

CHAPTER IV

DESCRIPTION OF THE STUDY

In order to test the methodology described in Chapter III, and to generate substantive recommendations for communication appeals in the context of the approach described in Chapter II, a field survey was conducted in India. This chapter describes the survey design in terms of its location, sampling, fieldwork, measuring instruments and categorization and coding of responses.

Objectives

There were two primary objectives behind the survey:

- (1) The first objective concerns the data collection methods and instruments. Specifically, the purpose was: (a) to test the suitability of the instruments and methods for obtaining measures on rural and urban Indian respondents as well as their suitability with interviewers without specialized skills and experience; and (b) to test the viability of using value responses generated by respondents to elicit perceived instrumental relationships between these values, and the object (family size)/behavior (family planning) of one's interest, both during the same interview session.
- (2) The second objective was to investigate the viability of this methodology to generate substantive recommendations for potentially effective communication appeals using the approach discussed earlier.

Pretest

The purpose of the pretest conducted in New York (in the summer of 1974) was to satisfy the researcher on the advisability of committing resources for the main test, and to make any necessary modifications in the instruments. The pretest consisted of twenty-four successful interviews (16 male, 8 female) with respondents drawn primarily from Latin American and Chinese ethnic groups around Columbia University. The pretest confirmed that the basic methodology was viable and worth testing in India, while providing valuable insights into measures and instruments concerning some variables. These will be referred to later in the chapter when instruments are discussed.

Location

The study was conducted in Jodhpur district of the western Indian state of Rajasthan (see Map 1). The overriding consideration in the choice of location was the familiarity of the principal researcher with the region, the language, and the local culture. In a study of this kind, the primary purpose of which is to contribute towards development of a methodology, it is imperative that the principal researcher be in constant and intimate touch with data collection and classification as well as recruitment and training of field staff, requiring thorough familiarity with region and language.

Sample

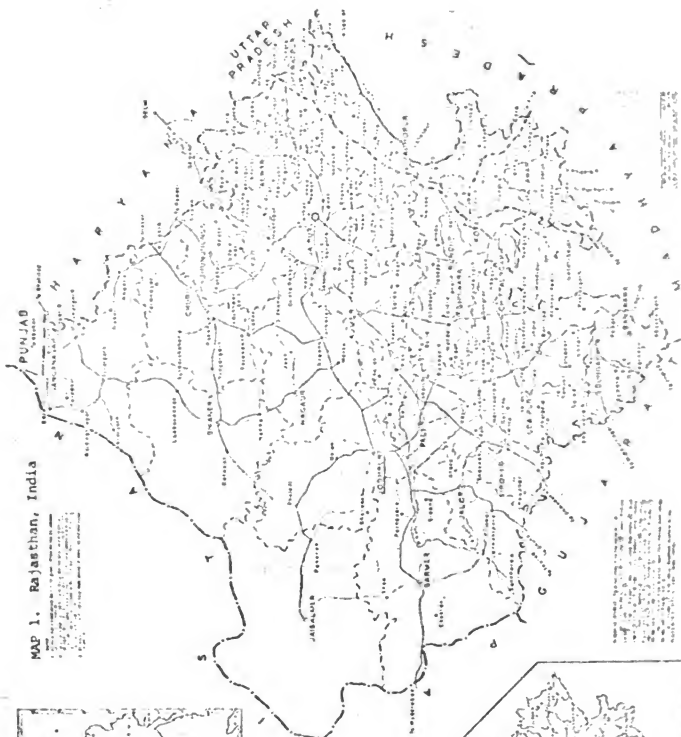
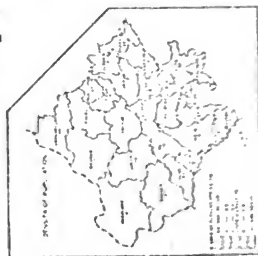
The officials of district administration as well as the Department of Health and Family Planning were contacted to obtain access to population

MAP 1. Rajasthan, India



RAJASTHAN MAP 1. SHOWS DISTRICTS

1. Jaisalmer	240
2. Barmer	140
3. Jodhpur	170
4. Bikaner	340
5. Jaipur	410
6. Sikarim	210
7. Nagarkurnool	400
8. Karol	120
9. Jaipur	110
10. Jaipur	110
11. Jaipur	110
12. Jaipur	110



lists and other information. The city of Jodhpur was chosen for urban interviews. Seven villages from two tehsils (sub-divisions) were chosen, in a manner that could be called purposive sampling, in order to obtain representation of both small and large size villages, areas with and without irrigation facilities, distance from family planning clinics and geographical spread. Similarly, six wards were selected in the city of Jodhpur for urban interviews, providing for representation of different communities and income classes. Table 5 summarizes key characteristics of villages and city wards along with the number of interviews.

In the chosen wards and villages, the sample was randomly selected from the lists of eligible couples completed by the family planning department, in some cases voter lists were used when the former were not available. While in urban areas we were able to follow the sample lists, in villages it became necessary to choose households randomly on the spot rather than follow the lists. This was because the original lists were not very reliable in terms of coverage and in many cases these either did not exist or were very old. In rural areas we followed the practice of first contacting the elected village chief, Sar Panch, obtaining his permission and then getting a briefing from him and/or the school teacher or health worker about the village and the distribution of population in different localities. We distributed total number of interviews to each locality proportionate to population distribution. Samples were then randomly selected in each locality.

We ended up with over 400 interviews in all, split about evenly between rural and urban areas, male and female respondents and users and

TABLE 5
RURAL AND URBAN AREAS SAMPLED: KEY CHARACTERISTICS

RURAL					
Village	Population (no.)	Literacy (%)	Irrigated Area (%)	Distance from Town (Kms)	No. of Interviews* (No.)
Banad	1,474	16.4	1.5	13	23
Bisalpur	3,162	18.2	2.6	38	33
Chopsani Charna	968	16.9	37.6	33	35
Dangiyabas	1,448	10.8	Negligible	32	28
Kotra	532	13.9	29.5	37	26
Rampura	1,892	7.4	20.7	30	29
Ummednagar	1,415	9.2	8.0	60	24
Total Rural	10,892	13.6	7.3	35	198

URBAN					
Ward (#)	Population (no.)	Literacy (%)	Workforce Engaged in Services or Trade		No. of Interviews* (No.)
			% of Population	% of Work Force	
Ishakia (18)	4,452	46.6	12.6	59.6	40
Mahamandir (4)	16,259	37.9	11.0	43.9	39
Mohanpura (37)	5,746	57.7	18.6	65.1	19
Navchokia (12)	5,807	66.7	15.2	72.0	40
Panta (5)	7,713	60.0	20.2	70.1	30
Sardarpura (32)	6,990	59.6	9.6	41.1	40
Jodhpur City	317,612	46.9	13.1	53.1	208

Source: District Census Handbook-13, Jodhpur, Rajasthan (1971)

*Actual numbers

nonusers of family-limitation methods. While we controlled for the quotas of urban-rural and male-female calls at the time of sampling, we had to augment the users' cell by looking for users after completing about half the interviews. Table 6 summarizes the sample breakdown.

TABLE 6
SAMPLE BREAKDOWN

	Rural			Urban			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Users	27	21	48	83	66	149	110	87	197
Nonusers	76	74	150	27	32	59	103	106	209
Total	109	95	198	110	98	208	213	193	406

Recruitment and Training of Interviewers

Interviewers were recruited from Jodhpur city with the help of a faculty member at University of Jodhpur, Department of Sociology. Seven interviewers, who had all recently completed masters degrees in sociology, were recruited after several had been interviewed by the principal researcher and the faculty member from University of Jodhpur. Among the tasks given to candidates during the selection process were conducting an interview using part of the questionnaire and adapting some of the questions and their presentation in the local dialect. One interviewer dropped out, leaving a team of six interviewers in addition to the principal researcher. Appendix A gives names of interviewers and those of others associated with the study in India.

The interviewing team was thoroughly trained in all aspects of field work over a period of three weeks. All members of the team came from the Jodhpur region and were thus familiar with the local language as well as the culture. The team participated in adaptation of the questionnaire to the local language during the training process. Tape recording equipment was heavily used during the training process with practice calls among the team members as well as in the field.

Field Work

The field work was conducted under constant supervision of the principal researcher who always accompanied the team and also conducted some interviews himself. The interviews were conducted by the team using the identity of students. Rural interviews were conducted on long day trips out of the city of Jodhpur, spending no more than a day in any particular village.

Respondents often had to be assured that the interviewer did not belong to a government service. In rural areas, they had to be assured that we had no affiliation with the family planning department, attitude towards which did not appear to be friendly.

We began the main data collection phase with male interviewers (three including the principal researcher) interviewing male respondents and female interviewers (four) interviewing female respondents. This was because we felt that respondents would be inhibited when interviewed by a member of opposite sex. However, we attempted, with success, to use female interviewers to interview male respondents, thus resulting in a mix of male and female interviews of male respondents. Female

respondents were, however, exclusively interviewed by female interviewers due to widespread traditional restrictions.

An important and frequent obstacle encountered during the entire field work phase, particularly in villages, was presence of other people--usually family members for females and friends for males--at the interview session. It was often very difficult to isolate the respondents and sometimes fake interviews had to be conducted by another interviewer to take away an individual from the genuine respondent.¹ There were occasions when it was impossible to isolate the respondent and the best that could be done was to keep others from participating in the interview.

This experience of encountering group situations and lack of any apparent inhibitions on the part of the respondents--in answering questions in the presence of others--suggests that an isolated one-to-one situation may not be very natural and representative for interviewing in rural India. An Indian villager is perhaps a much more public person than is generally assumed. We have, however, not investigated this aspect as part of this study.

Adaptation and Pretesting in Local Language

After the New York pretest, some modifications were made and the questionnaire was adapted in Hindi with the help of a university teacher of anthropology experienced in surveys in the area. The Hindi version was pretested in both rural and urban areas. While it worked quite well in urban areas, in rural interviewing the questions had to be presented

¹Appendix B displays some photographs taken during the field work phase in India.

in the local dialect of Rajasthani. This required adaptation on the part of the interviewer. In view of this, the questionnaire was adapted into Rajasthani after the first pretest wave which helped generate phrases and expressions that could communicate in the local language what we intended to convey. This version was subjected to pretesting, which resulted in a standardized and uniform adaptation in the local language. In the next section, where measures and instruments are discussed, reference will be made to the pretesting experience when appropriate. Appendix C contains a copy of the final questionnaire that was used, and its English version is attached as Appendix D.

Measures and Instruments

The method employed for data collection, as mentioned before, was oral interviews using a semi-structured questionnaire. All the measures were paper and pencil measures based on respondents' self reports. The variables on which measures were taken and the instruments used for measurement are discussed below.

In accordance with the approach and the framework discussed earlier, the following information would be relevant.

- A. Knowledge, attitude and practice of family planning among the target population.
- B. Value system of the target population.
- C. Instrumental relationships between values and attitude object (family planning) as perceived by the target population.
- D. Demographic and socio-economic information.

E. Media exposure and habits of the target population.

Knowledge, Attitude, and Practice (See Part IV of Questionnaire in Appendix D)

The segmentation framework and approach for intervening with communication relies on eliciting measures on a hierarchy of cognitive system variables, in addition to that of behavior. The variables and the instruments we used are discussed below.

(1) Awareness: Respondent's awareness of family planning concept was ascertained by asking him/her if it was possible for a couple to control and plan childbirth. The response was categorized as "yes," "no," or "not sure."

In addition, respondents' awareness of the major birth control methods was also ascertained. These measures ("yes" or "no") were taken after all attitude measures had been taken. (See questionnaire in Appendix D.) Although awareness measures on methods were taken, it is the awareness of the concept that is of primary importance for our purpose.

(2) Attitude Variables: Measures were taken on several relevant attitudinal variables. Specifically, we measured the following:

(a) Affect: Overall attitude towards family planning was elicited by asking respondent if he/she approved (disapproved) of family planning. The measure was categorized in nominal categories of "approve," "disapprove" and "not sure."

(b) Attitude towards family size: This was ascertained by asking respondent (i) what in his opinion was the ideal number of children for people like him--with a breakup between boys and girls; and

(ii) how many children he would consider to be too many for his own family. The first measure is less personal and elicits respondent's attitude without requiring him to prescribe it for himself, whereas the second measure relates to his preference for family size for himself. As anticipated, while nearly everyone responded to the first question, there were some refusals to the more personal (second) question.

(c) Beliefs: In order to understand the cognitive structure of attitude towards family planning, respondents' beliefs--position on eleven preselected statements about family planning--were ascertained on a five point Likert-type scale ranging from strongly agree to strongly disagree. The eleven statements, along with frequencies of responses, are shown in Table 7. We first discuss the choice of these eleven items and then the scale of measurement used.

(i) Item Selection: The process of item selection involved collection of items used in studies on family planning conducted in various parts of the world and eliminating those that appeared to mean the same thing. The final choice was influenced and guided by two sources and by the pretesting in India. The Population Council Manual for KAP surveys (1970) gives suggested questionnaires that include a list of attitude items, based on a very large number of studies. The second source was a study conducted in India to construct an attitude scale to measure attitude towards family planning by Jha, Kulhari and Shaktawat (1970). Their study resulted in 16 items, but many were not understood by respondents during our pre-test in India and we finally used eleven items. As can be seen the items cover both family size and birth control aspects of attitude towards family planning.

TABLE 7

BELIEFS ABOUT FAMILY PLANNING

Semantic Scale	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
Scale Value:	1	2	3	4	5
Beliefs (Stimuli)					
Fewer children Good for Mother's Health	377 93.3%	6 1.5%	11 2.7%	0 0%	10 2.5%
Fewer children easier to Bring Up	379 93.8%	5 1.2%	8 2.0%	3 0.7%	9 2.2%
Fewer Children Promote Family Happiness	380 94.1%	5 1.2%	6 1.5%	4 1.0%	9 2.2%
Fewer Children Prevent Economic Hardship	358 88.8%	8 2.0%	8 2.0%	10 2.5%	19 4.7%
Fewer Children Means Mother Can Work	357 88.6%	15 3.7%	5 1.2%	6 1.5%	20 5.0%
Fewer Children Allow Parents to do Other Things	320 89.4%	13 3.6%	6 1.7%	3 0.8%	16 4.5%
Small Population Good for Country	263 65.3%	18 4.5%	37 9.2%	10 2.5%	75 18.6%
Birth Control is Against Religion	135 33.7%	22 5.5%	23 5.7%	18 4.5%	203 50.6%
Birth Control is Morally Wrong	122 30.3%	22 5.5%	30 7.4%	19 4.7%	210 52.1%
Birth Control is Painful and Troublesome	80 20.0%	22 5.5%	118 29.5%	13 3.3%	167 41.8%
Large Families are Good	34 8.5%	15 3.8%	7 1.8%	30 7.5%	314 78.5%

(ii) **Scale of Measurement:** In the first pretest in New York we tried to obtain an ordinal measure on the items by asking respondents to rank them in order of their applicability for the respondent. In view of the larger number of items and a preference for obtaining interval scale measures, a Likert-type scale was used in India. The frequencies (see Table 7), however, indicate that respondents did not quite use the scale fully. The responses can be classified in two categories: those belonging to the top box ("strongly agree" for the first seven items and "strongly disagree" for the last four) in one category, and those belonging to the other four boxes in the second category. This tends to support the view held by the researcher that with rural, low literacy populations, use of scales that require respondents to make fine shades of discriminations or judgments is inappropriate. It, thus, restricts one to nominal scale data which have limitations for analysis, but are perhaps closer to the real values of the variables held by respondents.

(iii) **Intention:** The conative component of attitude was measured by asking the respondent if he/she intended to practice birth control. The responses were ascertained in nominal categories. In view of the fact that most users of family planning methods had used terminal methods, this question was asked only to nonusers.

(iv) **Practice:** Respondent's behavior was ascertained by asking him/her if he/she and/or his/her spouse was doing or had done anything to control birth. All those who had used terminal methods at any time were classified as "users," while only current users of non-terminal methods were classified as "users."

In addition to these structured measures, open-ended responses

were elicited by asking respondents when appropriate the reasons for their approval or disapproval of family planning and for not practicing, and not intending to practice family planning. They were also asked to indicate what, in their opinion, were the reasons for people not practicing family planning.

Value System (See Part II of the Questionnaire in Appendix D).

It was argued in Chapter II that values are an important influence on attitudes and behavior patterns. Thus, if any modification is desired in the attitudes and behavior of a target population, an understanding of its value system is crucial. We generated value hierarchies of the target population using the instruments of the ECHO value survey described earlier. We used four basic types of ECHO questions:

(i) and (ii) What is a good/bad thing that could happen to you? Who or what is likely to cause this?

(iii) and (iv) What is a good/bad thing that you could do? Who is likely to approve/disapprove of this?

Each of the four questions was repeated five times, along with the sub-question relating to source of cause/influence. Thus, a maximum of 20 responses were possible per respondent. The actual number of responses averaged 10.5 per respondent (after some inevitable loss due to classification).

A variation of the above ECHO questions by adding the additional context of family was tried in the pretests in New York and India. (e.g., what is a good thing that could happen to your family?) In New York, this produced responses similar to the one without the family context as far as the first two "to happen" questions were concerned. However, responses

were a little different on the "to do" questions. In the pretest in India, however, responses to both variants were similar. Therefore, the original question form--without the additional context of family--was used.

These semistructured questions for generating value hierarchies required some explanation to the respondent and a little prodding initially. On the whole the questions worked quite well generating manifestations of respondents' values--their concerns and aspirations and their codes of conduct. The responses to "bad things"--disvalued ends and acts--were generally fewer than those to good things; 4.8 against 5.7 per respondent respectively. This could be ascribed to a cultural tendency to avoid talking about and even thinking about ill things, although Hulbert (1975) has found a similar tendency among Western respondents.

Value Instrumentalities (See Part III of the Questionnaire in Appendix D). Having generated value hierarchies, we needed to measure instrumental relationships between values, and attitude object (family size) and behavior (family planning), as perceived by the respondents. These perceived value instrumentalities were elicited by asking the respondent to consider the relationship between each of his value responses that he had just given and two preselected items--"having many children" and "family planning practice."² The respondent was asked to indicate whether, in his/her opinion, the preselected item (i.e. having many children and family planning practice) helped attain the value (facilitated the valued act) that he had mentioned or whether it hindered (obstructed)

²Two additional items, "good occupation-crop/business" and "children get education, become able," were used merely to avoid emphasizing family planning and thus possibly introducing biased influences in responses.

its attainment, or whether these were not related. The responses were, thus, nominally categorized. Sometimes, the respondents reversed the direction of relationship in their responses i.e. indicating that a value helped attain the preselected item. (As an example, drought, a bad thing to happen, helps to cause practice of family planning.) These were separately coded.

From the point of view of field work these instrumentality measures would be the most difficult to obtain, since the method requires using the responses generated in the ~~same~~ interview session for obtaining these measures. However, the procedure worked very well in the field, although it did require intensive training and practice on the part of the interviewer to code and record the responses with minimum error.

We have thus obtained perceived instrumental relationships between respondents' values and family planning practice as well as family size. This should provide insights into the structure of attitude and content for communication messages.

Demographic and Socioeconomic Information (See Part I of the Questionnaire in Appendix D). We need measures on demographic and socioeconomic variables both to describe the target population and its segments, and to investigate the effect of these on system variables. We obtained measures of the following variables by asking the respondent to indicate the value.

Demographic

- (i) Place of residence: Urban locality, rural village.
- (ii) Sex of respondent.

- (iii) Age of respondent (or last birthday)
- (iv) Age of spouse.
- (v) Number of children respondent has.
- (vi) Number of sons respondent has.
- (vii) No. of daughters respondent has.

Socio-economic

- (i) Caste
- (ii) Religion
- (iii) Occupation of respondent
- (iv) Occupation of spouse
- (v) Education of respondent
- (vi) Education of spouse
- (vii) Family income (monthly) (estimated in rural areas from crop yield)

The only variable for which measurement was somewhat problematic was income in rural areas where it had to be estimated from crop yields. Female respondents were sometimes not aware of, or could not recall, crop output. Among the socio-economic variables, caste would be indicative of social status in the village. In urban areas, occupation and education, in addition to caste, denote status, while income is indicative of economic status in urban as well as rural areas.

Media Exposure (See Part V of the Questionnaire in Appendix D). Measures of media exposure and sources of news were obtained to identify channels for reaching target populations with communications. The following measures were taken in "yes," "no" categories.

- (i) Radio listening
- (ii) Cinema going
- (iii) Newspaper/periodical reading
- (iv) Local people as news sources.

In addition, measures of frequency and nature of exposure to various media were ascertained.

Classification and Coding

The questionnaire, with the exception of part II (value and source questions) and questions on reasons for attitude and practice of family planning, was precoded.

Classification of value responses is an important part of ECHO methodology. Value and source questions are recorded verbatim. The classification process, lasting over three weeks, involved two stages. In the first stage, four two-member teams of indigenous classifiers (all but one of whom had also done interviewing) made categories of responses to value and source questions. Since responses were written on questionnaires and not on IBM cards, the procedure involved writing out responses on large sheets of papers divided into many segments--similar responses going in the same segment. They also gave a label to each of the categories they made. In the second stage all four teams compared their categories and labels and made modifications in their questions successively, evolving finally one uniform classification with labels for all categories and actual responses written under it. Codes were assigned to the categories and the staff then went back to the questionnaires to enter the codes. This procedure was followed for all open ended responses.

Some demographic and socioeconomic variables also required categorization and coding, the most difficult being caste. There is a wide variety of castes and subcastes and some, particularly in rural areas, are unfamiliar. With the help of local anthropology researchers, publications and other knowledgeable sources, castes were classified in nine main categories. For much of the analysis caste has been further grouped into two categories: "agrarian and backward," and "nonagrarian upper castes." Occupation has been classified and coded in eight categories. For purposes of the analysis, occupation of the earning member has been considered if respondent is not an earning member--usually housewife. The categories are ordered from one to seven, one being landless laborer, two being farmer, and so on (see next section for a summary of measures and codes). Income, age and family size have also been classified into categories and coded in ascending order.

The attached summary of measures, categories and codes of variables gives the relevant details. The variables have been used in these forms throughout the analysis, unless otherwise noted.

The value responses, a maximum of five in each of four types of questions, were transformed, after categorization, into one hundred binary variables, coded as "one" if the respondent mentioned that value, and "zero" if he did not mention it.

Summary of Variables & Codes

The variables and their measures, discussed in detail in the preceding sections, are now summarized below.

I. Criteria Variables: (i) usage (practice), (ii) awareness, (iii) attitude (approval), of family planning, (iv) intention to practice family planning, and (v) desire for more children. (Responses on all coded as "1" if "yes," "0" otherwise.)

II. Demographic & Socioeconomic: (i) Place of residence (urban "1," rural "0"), (ii) sex (male "1," female "0"), (iii) age of respondent (11-24 years "1," 25-30 years "2," 31-40 years "3," 41-above years "4"), (iv) family size (2-5 members="1," 6-9 members="2," 10 and above="3"), (v) number of children and (vi) number of sons the respondent has (actual). (vii) Caste (Agrarian and backward "0," otherwise "1"), (viii) Religion (Hindu="1," Muslim and others="0"), (ix) Occupation of respondent, or spouse when respondent housewife, (ordered from 1 to 7: 1 = Unskilled/landless labour, 2 = Peasant, 3 = Skilled worker, 4 = Trader, 5 = Office worker/clerk, 6 = Officer, 7 = Professional), (x) Education (categorized 1 to 7: 1 = Illiterate, 2 = Literate, 3 = Primary school, 4 = Middle school, 5 = High School, 6 = College graduate, 7 = Professional), (xi) Family Income (categorized 1 to 5: 1 = Up to Rs. 200/- p.m., 2 = Rs. 200/to 350/- p.m., 3 = Rs. 350/ to 500/- p.m., 4 = Rs. 500/ to 1000/- p.m., 5 = Rs. 1000/- and above).

III. Media: Exposure to (i) radio, (ii) cinema, and (iii) newspapers/periodicals, and (iv) local people as news sources ("1" if yes, "0" otherwise)

IV. Beliefs Concerning Family Planning: Responses on five point interval scale; 1 = strongly agree, 2 = agree, 3 = neutral or not sure, 4 = disagree, 5 = strongly disagree) using eleven preselected belief statements as stimuli. Beliefs about family size measured as (i) ideal

number of children, and (ii) no of children seen as too many.

V. Values: Responses to 20 value questions classified into one hundred categories and further grouped into 38 final categories. (coded as "1" if mentioned, "0" otherwise).

VI. Value Instrumentalities: Perceived relationship between (i) "having many children," and (ii) "family planning," and each of the values mentioned by respondent (categorized as related positively "1", negatively "-1" or unrelated "0").

VII. Sources of Cause and Approval/Disapproval: Value responses followed by a source likely to make that good/bad thing happen or likely to approve/disapprove of that good/bad act (classified into nominal categories).

CHAPTER V

EXAMINATION OF RELATIONSHIPS AMONG COGNITIVE SYSTEM AND BEHAVIORAL VARIABLES

The framework for segmenting target populations and the approach for communication design for different segments was discussed in Chapter II. The approach and the framework recognized the importance of setting objectives in terms of cognitive system variables - awareness, attitude and intention. In this chapter we examine the interrelationships of system variables for validating the assumptions of relationships that underlie the approach and the framework. In the next chapter, we consider the problem of applying this approach for choosing communication appeals and obtaining guidance for source variables.

Organization

After briefly reviewing the sets of variables, and their sample values, we first examine the relationships among cognitive and behavioral (family planning usage) variables as well as relationships between these and demographic and socioeconomic variables. We then analyze the beliefs regarding family planning to identify and factor underlying dimensions of attitude structure. Next, we examine the value categories and discuss attempts to factor analyze value data for obtaining a smaller and

more manageable list of categories. We then examine the relationships between criteria-variables (usage, awareness, attitude, intention and desire for more children) and value categories as well as perceived value instrumentalities of 'having many children' and 'family planning.' The last section of the chapter discusses discriminant-analytic examination of system variables and their parameters.

Classification of Variables

The system variables can be classified into two groups, (i) endogenous variables and (ii) exogenous variables. Endogenous variables are a set of jointly dependent variables that are affected by and in turn affect other variables in the system. Exogenous variables, on the other hand, are those variables that affect criteria variables but are unlikely to be affected by them. Under this classification scheme, we would consider the five criteria variables, measures of beliefs about family planning, and value instrumentalities of family planning and family size as endogenous variables. Demographic, socioeconomic and media variables are exogenous variables. Values and their sources of causation or approval/disapproval, in this case, would also be exogenous variables since these are unlikely to be affected by system variables, especially criteria variables. This classification of values into exogenous groups, however, can be contested at least in as much as it is likely that values are affected by demographic and socio-economic variables. For our purposes, we will treat these as exogenous, since we are interested in values as independent variables and their influence on other cognitive and behavioral variables.

Values of Variables

The aggregate measures of criteria variables, socio-demographic and media variables as well as beliefs concerning family planning are summarized in Table 8 for the total sample as well as the user-nonuser (of family planning) subgroups. The values of criteria variables are summarized below in Table 9.

TABLE 9
VALUES OF CRITERIA VARIABLES

	Total Sample	Users	Nonusers
Sample Size	406	197	209
	1	1	1
Usage (of family planning)	48.5	100.00	0.0
Awareness (of family planning)	94.3	99.0	90.0
Attitude (approval of F.P.)	81.0	96.4	66.5
Intention (to use F.P.)*	-	-	30.6
Desire for more children (yes)	32.3	13.2	48.3

*Asked only of nonusers

Since sample selection was controlled by quotas on usage, urban/rural dwelling, and sex of respondents, the values appearing above and in Table 8 should not be interpreted as reflecting aggregate population mean values. They contrast the groups - user, nonuser - in terms of their characteristics. The actual population mean value for usage is estimated to be 15% nationally and less than 8% in Rajasthan (Jain, 1975).

Awareness of family planning is near universal, even among non-users. This is not surprising in view of the extensive promotion and propaganda efforts of the Government of India over several years. (Awareness of specific methods, however, varies). This indicates that the market is now past the concept-awareness-creation stage and the communication efforts,

TABLE 8

AGGREGATE VALUES OF SOCIO-DEMOGRAPHIC AND MEDIA VARIABLES;
AND OF KNOWLEDGE, ATTITUDE, PERCEPTIONS
AND BELIEFS ABOUT FAMILY PLANNING

	All Respondents	Users of F.P.	Non-Users of F.P.
N =	406	197	209
Demographic Socio-Economic			
Urban Dwellers	51%	76%	28%
Sex--Male Respondents	53	56	49
Age--30 or under	51	40	62
Caste--No-agricultural upper	40	56	25
Religion--Hindu (Non-Muslem)	92	97	87
Education--Illiterate	45	25	64
Income--over Rs. 200 p.m.	74	86	62
No. of children--3 or less	54	50	57
No. of Sons--2 or more	53	63	44
Family Size--6 or more members	75	75	74
Media			
Exposure to Radio	78	86	70
Exposure to Cinema	57	74	41
Exposure to Newspapers/Period.	40	62	20
Local people as news source	53	39	66
Most trusted source--radio	56	70	44
" " " local people	33	20	45
Knowledge, Attitude & Perception			
Awareness of Family Planning	94	99	90
Approval of Family Planning	81	96	67
Desire for more children	31	13	48
Ideal no. of children--3 or less	56	74	38
No. of children seen as too many--over four	57	46	68

TABLE 8 (Continued)

	All Respondents	Users of F.P.	Non-Users of F.P.
N =	406	197	209
Beliefs (Perception) on Birth Control (Top Box 1 = 'Strongly Agree')			
Fewer children good for mother's health	93%	97%	90%
Fewer children easy to bring up	94	98	90
Fewer children promote family happiness	94	97	91
Fewer children prevent economic hardship	89	93	85
Fewer children means mother can work	89	92	86
Fewer children let parents do other things	89	92	87
Small Population Good for our Country	65	76	55
Birth control is Against Religion	34	29	47
Birth Control is Morally Wrong	30	17	43
Birth Control is Painful and Troublesome	20	15	25
Large Families are Good	9	4	13
Reasons for Approval/Disapproval			
Easy to Bring Up	27	34	20
Comfortable Life	14	14	15
Economic need/Inflation or Drought	21	24	19
Against Religion/Immoral	4	0	8
Anti-God's Will	6	0	11
Ruins Health	6	2	9
Reasons for not Practising F.P.			
Want more children/sons	--	--	38
Anti-God's will/Anti-Religion	--	--	19
Ruins Health	--	--	19
Do not need	--	--	17

like propaganda, aimed at general concept awareness have limited usefulness. What is more significant and encouraging is the high level of approval (81%) of family planning. Nearly two thirds of the nonusers also approve family planning. However, less than a third of nonusers intend to practice family planning in the future, a wide gap between approval and intention levels. Almost a third of the sample and one half of nonusers desire more children.

Relationships Among System Variables

We now examine the basic pairwise relationships among system variables with the help of correlation and contingency table analysis. First, the relationships among the five criteria variables are examined. Next, we assess the relationships between each of the five criteria variables, and the socio-demographic measures, media measures and beliefs concerning family planning. We also consider the relationships among sociodemographic and media measures, and beliefs about family planning. We then examine relationships between criteria variables and values, after dealing with the problem of categorization of value responses. The relationships between value-instrumentalities and criteria variables are next assessed. Finally, multivariate relationships are analysed through multiple discriminant analysis.

Relationships Among Criteria Variables

Table 10 shows simple correlation coefficients and Table 11 summarizes chi-square relationships among the five criteria variables: usage, awareness, attitude, intention and desire for more children.

TABLE 10
SIMPLE CORRELATIONS AMONG CRITERIA VARIABLES

		Usage	Awareness	Attitude	Intention	Desire for More Children
	N	406	406	406	209	406
Usage		1.00	.195 ^a	.382 ^a	--	-.379 ^a
Awareness		.195 ^a	1.00	.371 ^a	.193 ^a	-.133 ^b
Attitude		.382 ^a	.371 ^a	1.00	.351 ^a	-.121 ^b
Intention		--	.193 ^a	.351 ^a	1.00	.290 ^a
Desire for More Children		-.379 ^a	-.133 ^b	-.121 ^b	.290 ^a	1.00

^aSignificant at .1%

^bSignificant at 1%

^cSignificant at 5%

Note: All correlation coefficients in this table and in all other tables are 'pearsonian product moment correlations,' which are equivalent of 'phi coefficients' for binary scaled (0-1) nominal variables.

As can be seen, correlations among all five criteria variables are statistically significant and in the expected direction--positive for all except desire for more children where these are negative. This pattern is confirmed by contingency table analysis which makes weaker statistical assumptions about the data (Table 11). The strength of relationships as indicated by the size of coefficients displays the basic hierarchical relationships among cognitive and behavioral variables that are implied in our framework and approach for communication intervention. The coefficients between hierarchically adjacent variables like attitude-awareness, attitude-intention and attitude-usage, are larger than those between variables that are a step removed by intervening variables. Essentially the same pattern emerges when partial correlations are computed controlling for urban/rural residence (Table 12).

Cross Tabulations Among Criteria Variables: Tables 13 to 15 show cross tabulations between awareness and attitude, attitude and intention, and attitude and usage. As noted earlier, very few--less than 6%--are not aware of family planning and most of those do not approve of family planning. Although only 19% of all respondents have negative attitudes towards family planning, a full one third of nonusers fall into this negative attitude group. And while 91% of those nonusers who have negative attitudes do not intend to practice family planning, nearly half (43%) of the nonusers who approve of family planning indicate a positive intention to practice family planning in the future. We find the same pattern when we tabulate attitude-usage and attitude-intention controlling for awareness (Tables 16 and 17). Thus, among those who are aware of family planning, very few (10%) who disapprove are users whereas over half

TABLE 11
CHI-SQUARE RELATIONSHIPS AMONG CRITERIA VARIABLES

		Usage	Awareness	Attitude	Intention	Desire for More Children
	N =	406	406	406	209	406
Usage		--	A	A	--	A
Awareness		A	--	A	B	A
Attitudes		A	A	--	A	C
Intention		--	B	A	--	A
Desire for More Children		A	A	C	A	--

A - Significant at .1%

B - Significant at 1%

C - Significant at 5%

TABLE 12

PARTIAL CORRELATIONS AMONG CRITERIA VARIABLES
(controlling for Urban/Rural dwelling)

	Usage	Awareness	Attitude	Intention	Desire for More Children
	406	406	406	209	406
Usage	1.00	.134 ^a	.354 ^a	--	-.333 ^a
Awareness	.134 ^a	1.00	.354 ^a	.202 ^a	-.105 ^c
Attitudes	.354 ^a	.354 ^a	1.00	.362 ^a	-.094 ^c
Intention	--	.202 ^a	.362 ^a	1.00	.289 ^a
Desire for More Children	-.333 ^a	-.105 ^c	-.094 ^c	.289 ^a	1.00

^aSignificant at .1%

^bSignificant at 1%

^cSignificant at 5%

TABLE 13

CROSS TABULATION OF ATTITUDE TOWARDS
FAMILY PLANNING BY AWARENESS OF FAMILY PLANNING

Attitude		Awareness		Row Total
		No	Yes	
Disapprove	Count	18	59	77
	Row %	23.4	76.6	100.0
	Column %	78.3%	15.4%	
	Total %	4.4	14.5	
Approve	Count	5	32	37
	Row %	1.5	98.5	100.0
	Column %	21.7	84.6	
	Total %	1.2	79.8	
Column		23	383	406
Total		5.7	94.3	100.0

Chi Square = 51.76, Significance = 0.00

TABLE 14

CROSS TABULATION OF INTENTION FOR
PRACTISING F.P. IN FUTURE BY ATTITUDE FOR FAMILY PLANNING

Practice		Attitude		Row Total
		Disapprove	Approve	
NonUsers	Count	53	135	188
	Row %	28.2	71.8	49.1
	Column %	89.8	41.7	
	Total %	13.8	35.2	
Users	Count	6	189	195
	Row %	3.1	96.9	50.9
	Column %	10.2	58.3	
	Total %	1.6	49.3	
Column		59	324	383
Total		15.4	84.6	100.0

Chi Square = 24.21, Significance = 0.00

TABLE 15
CROSS TABULATION OF FAMILY PLANNING PRACTICE
BY ATTITUDE TOWARDS FAMILY PLANNING

Practice		Attitude		Row Total
		Disapprove	Approve	
NonUser	Count	70	139	209
	Row %	33.5	66.5	51.5
	Column %	90.9	42.2	
	Total %	17.2	34.2	
User	Count	7	190	197
	Row %	3.6	96.4	48.5
	Column %	9.1	57.8	
	Total %	1.7	46.8	
Column		77	329	406
Total		19.0	81.0	100.0

Chi Square = 57.22, Significance = 0.00

TABLE 16 (Part A)
CROSS TABULATION OF ATTITUDE BY
PRACTICE AMONG THOSE AWARE

Intention		Attitude		Row Total
		Disapprove	Approve	
No	Count	64	79	143
	Row %	44.8	55.2	68.4
	Column %	91.4	56.8	
	Total %	30.6	37.8	
Yes	Count	6	60	66
	Row %	9.1	90.9	31.6
	Column %	8.6	43.2	
	Total %	2.9	28.7	
Column		70	139	209
Total %		33.5	66.5	100.0

Chi Square = 44.42, Significance = 0.00

TABLE 16 (Part B)

CROSS TABULATION OF ATTITUDE
BY PRACTICE AMONG THOSE NOT AWARE

Practice		Attitude		Row Total
		Disapprove	Approve	
NonUser	Count	17	4	21
	Row %	81.0	19.0	91.3
	Column %	94.4	80.0	
	Total %	73.9	17.4	
User	Count	1	1	2
	Row %	50.0	50.0	8.7
	Column %	5.6	20.0	
	Total %	4.3	4.3	
Column		18	5	23
Total		78.3	21.7	100.0

Chi Square = 0.01, Significance = 0.91

CROSS TABULATION OF ATTITUDE
BY INTENTION FOR THOSE AWARE

Intention		Attitude		Row Total
		Disapprove	Approve	
No	Count	47	76	123
	Row %	38.2	61.8	65.4
	Column %	88.7	56.3	
	Total %	25.0	40.4	
Yes	Count	6	59	65
	Row %	9.2	90.8	34.6
	Column %	11.3	43.7	
	Total %	3.2	31.4	
Column		53	135	188
Total		28.2	71.8	100.0

Chi Square = 16.24, Significance = 0.00

TABLE 17 (Part B)

CROSS TABULATION OF ATTITUDE
BY INTENTION FOR THOSE NOT AWARE

Intention		Attitude		Row Total
		Disapprove	Approve	
No	Count	17	3	20
	Row %	85.0	15.0	95.2
	Column %	100.0	75.0	
	Total %	81.0	14.3	
Yes	Count	0	1	1
	Row %	0.0	100.0	4.8
	Column %	0.0	25.0	
	Total %	0.0	4.8	
Column		17	4	21
Total		81.0	19.0	100.0

Chi Square = 0.65, Significance = 0.42

of those who approve are users. Similarly, very few (11%) among those nonusers who are aware, intend to practice family planning, while nearly half (44%) of those nonusers who approve (and are aware) intend to practice.

The pattern of relationships among criteria variables that we have just seen confirm the underlying relationships of our approach and support our view that communication objectives should include multiple criteria variables--those representing hierarchical stages in communication process.

Relationship Between Criteria Variables and Socio-Demographic and Media Variables

Correlation coefficients between criteria variables and socio-demographic and media variables are shown in Table 18, chi square analysis for the same is summarized in Table 19. Among the demographic variables, urban dwelling, older age, and more children and sons are significantly associated with usage, as would be expected. Similarly, nonagricultural upper caste and occupation, education, and higher income are also significantly associated with usage of family planning. Awareness and attitude are significantly associated with urban dwelling, occupation, education and income, although the relationships are not as strong as with usage. More of those who intend to practice family planning belong to nonagricultural castes and occupations, Hindu religious faith, literate or educated class, and are relatively younger with smaller families and fewer children and sons, than those who do not intend to practice.

Among the media measures, exposure to mass media--radio, cinema and print--is positively associated with all four criteria variables,

TABLE 18
SIMPLE CORRELATIONS BETWEEN CRITERIA AND SOCIO-DEMOGRAPHIC
AND MEDIA VARIABLES

	Usage	Awareness	Attitude	Intention	Desire for More Children
Demographic - Socio-Economic N =	406	406	406	209	406
Urban/Rural Dwelling	.474 ^a	.166 ^a	.157 ^a	-.037	-.192 ^a
Sex	.066	.001	.081 ^c	.257 ^a	.121 ^b
Family Size	-.021	.003	-.051	-.141 ^c	-.090 ^c
Age	.264 ^a	-.009	.054	-.278 ^a	-.456 ^a
Caste	.349 ^a	.087 ^c	.210 ^a	.170 ^b	-.100 ^c
Religion	.186 ^a	.041	.193 ^a	.176 ^b	-.025
Occupation	.394 ^a	.138 ^a	.147 ^a	.031	-.169 ^a
Education	.458 ^a	.175 ^a	.281 ^a	.143 ^c	-.024
Family Income	.283 ^a	.095 ^c	.127 ^b	.011	-.119
Number of Children	.127 ^b	.033	-.099 ^c	-.294 ^a	-.515 ^a
Number of Sons	.142 ^a	.047	-.059	-.331 ^a	-.483 ^a
Media					
Exposure to Radio	.191 ^a	.200 ^a	.207 ^a	.177 ^b	-.007
Exposure to Cinema	.334 ^a	.175 ^a	.233 ^a	.085	-.006
Exposure to Newspapers/ Periodicals	.424 ^a	.200 ^a	.272 ^a	.128 ^c	-.067
Local People as News Source	-.275 ^a	-.083 ^c	-.181 ^a	-.100	-.042

^aSignificant at .1%

^bSignificant at 1%

^cSignificant at 5%

TABLE 19

CHI-SQUARE RELATIONSHIPS BETWEEN CRITERIA VARIABLES
AND SOCIO-DEMOGRAPHIC AND MEDIA VARIABLES

	Usage	Awareness	Attitude	Intention	Desire for More Children
N =	406	406	406	209	406
Demographic - Socio-Economic					
Urban/Rural Dwelling	A	A	B	B	A
Sex		C		A	B
Family Size				C	A
Age	A	B		A	A
Caste	A		A	C	C
Religion	C		A	C	
Occupation	A	B	A		C
Education	A		A		
Family Income	A				
Number of Children	A		C	A	B
Number of Sons	A		C	A	B
Media					
Exposure to Radio	A	A	A	B	
Exposure to Cinema	A	B	A		
Exposure to Newspapers/Periodicals	A	A	A		
Local People as News Source	A		A		
Most Trusted Source Of Information	A	A	A		

A - Significant at .1% B - Significant at 1% C - Significant at 5%

and 'local people as news source' is negatively associated with these.

The pattern is generally similar when we look at partial correlations, controlling for urban/rural dwelling (Table 20).

Relationships Between Criteria Variables and Beliefs Regarding Family Planning

Beliefs measured on eleven preselected statements concerning family planning and measures of family size preference are correlated with the criteria variables in Table 21. Chi square analysis for the same is presented in Table 22 and partial correlations after controlling for urban/rural dwelling are shown in Table 23. Measures of family size preference--ideal and excessive number of children--are significantly related with usage and attitude in the expected direction, and, to a lesser extent, these are also related with intention. The measures of attitude structure--beliefs--are strongly related to attitude and awareness. Their association with usage and intention is also significant, but is stronger with beliefs concerning birth control practice (#8 to 10) than with those concerning advantages of family size (first six).

Factor Analysis of Beliefs About Family Planning

Beliefs regarding family planning, the cognitive component of attitude, were ascertained on a five point agree-disagree scale with eleven belief statements serving as stimuli. An examination of the distribution of frequencies as well as correlation matrix of these eleven measures (Table 24) suggested redundancy in the data. A factor analysis was performed to reduce redundancy and identify any underlying structure. Two principal components, with eigenvalues greater than one and cumulatively explaining 65% of the variance, were rotated using varimax

TABLE 20

PARTIAL CORRELATIONS BETWEEN CRITERIA VARIABLES
AND SOCIO-DEMOGRAPHIC AND MEDIA VARIABLES
(controlling for Urban/Rural Dwelling)

	Usage	Awareness	Attitude	Intention	Desire for More Children
N	406	406	406	209	406
Demographic - Socio-Economic					
Urban/Rural Dwelling	--	--	--	--	--
Sex	.070	-.000	.080 ^c	.257 ^a	.125 ^b
Family Size	-.043	-.003	-.057	-.140 ^c	-.085 ^c
Age	.187 ^a	-.047	-.021	-.277 ^a	-.432 ^a
Caste	.197 ^a	.022	.163 ^a	.202 ^c	-.026
Religion	.287 ^a	.065	.220 ^a	.173 ^b	-.053
Occupation	.166 ^a	.052	.070	.075	-.072
Education	.242 ^a	.095 ^c	.237 ^a	.210 ^a	.120 ^b
Family Income	.188 ^a	.054	.090 ^c	.022	-.073
Number of Children	.117 ^b	.025	-.108 ^c	-.293 ^a	-.516 ^a
Number of Sons	.137 ^a	.040	-.067	-.330 ^a	-.484 ^a
Media					
Exposure to Radio	.082 ^c	.166 ^a	.175 ^a	.193 ^a	.044
Exposure to Cinema	.176 ^a	.119 ^b	.188 ^a	.109	.081 ^c
Exposure to Newspapers/Periodicals	.215 ^a	.131 ^b	.226 ^a	.181 ^b	.052
Local People as News Source	-.141 ^a	-.030	-.139 ^a	-.119 ^c	-.114 ^b

^aSignificant at .1%^bSignificant at 1%^cSignificant at 5%

TABLE 21
SIMPLE CORRELATION BETWEEN CRITERIA VARIABLES
AND BELIEFS ABOUT FAMILY PLANNING

	Usage	Awareness	Attitude	Intention	Desire for More Children
N =	406	406	406	209	406
Ideal no. of children	-.301 ^a	-.058	-.340 ^a	-.160 ^b	.139 ^b
No. of children seen as too many	-.264 ^a	-.215 ^a	-.275 ^a	-.185 ^a	.050
Beliefs (attitude on 11 dimensions)					
Good for mother's health	-.121 ^b	-.307 ^a	-.297 ^a	-.167 ^b	.059
Fewer children easier to bring up	-.122 ^b	-.325 ^a	-.356 ^a	-.166 ^b	.026
" " promote family happiness	-.090 ^c	-.325 ^a	-.320 ^a	-.149 ^c	.021
" " prevent economic hardship	-.122 ^b	-.397 ^a	-.327 ^a	-.152 ^b	.067
" " means mother can work	-.113 ^b	-.379 ^a	-.345 ^a	-.194 ^a	.053
" " let parents do other things	-.059	-.319 ^a	-.302 ^a	-.161 ^c	.007
Small population good for our country	-.232 ^a	-.283 ^a	-.368 ^a	-.250 ^a	.017
Birth control is against religion	-.321 ^a	.173 ^a	.333 ^a	.373 ^a	-.009
" " " morally wrong	-.311 ^a	.160 ^a	.384 ^a	.448 ^a	.054
" " " painful and troublesome	-.303 ^a	.122 ^b	.232 ^a	.331 ^a	-.050
Large families are good	-.224 ^a	.348 ^a	.491 ^a	.276 ^a	-.054

^aSignificant at .1%

^bSignificant at 1%

^cSignificant at 5%

TABLE 22

CHI-SQUARE RELATIONSHIPS BETWEEN CRITERIA VARIABLES
AND BELIEFS ABOUT FAMILY PLANNING

	Usage	Awareness	Attitude	Intention	Desire for More Children
N =	406	406	406	209	406
Ideal no. of children	A	A	A		
No. of children seen as too many	A		A	C	C
Beliefs (attitude on 11 dimensions)					
Good for mother's health	C	A	A		
Fewer children easier to bring up	B	A	A		
" " promote family happiness		A	A		
" " prevent economic hardship		B	A		
" " means mother can work		A	A	C	
" " let parents do other things		A	A		
Small population good for our country	A	A	A	A	
Birth control is against religion	A		A	A	
" " " morally wrong	A	C	A	A	
" " " painful and troublesome	A	A	A	A	B
Large families are good	A	A	A	A	

A - Significant at .1%

B - Significant at 1%

C - Significant at 5%

TABLE 23
 PARTIAL CORRELATIONS BETWEEN CRITERIA VARIABLES AND
 BELIEFS ABOUT FAMILY PLANNING
 (controlling for Urban/Rural dwelling)

	Usage	Awareness	Attitude	Intention	Desire for More Children
N =	406	406	406	209	406
Ideal no. of children	-.206 ^a	-.014	-.313 ^a	-.176 ^b	.093 ^c
No. of children seen as too many	-.150 ^a	-.177 ^a	-.243 ^a	-.205 ^a	-.006
Beliefs (attitude on 11 dimensions)					
Good for mother's health	-.063	-.290 ^a	-.281 ^a	-.174 ^b	.033
Fewer children easier to bring up	-.056	-.307 ^a	-.340 ^a	-.174 ^b	-.004
" " promote family happiness	-.021	-.307 ^a	-.304 ^a	-.157 ^b	-.008
" " prevent economic hardship	-.078	-.386 ^a	-.316 ^a	-.157 ^b	.047
" " means mother can work	-.082 ^c	-.376 ^a	-.337 ^a	-.198 ^a	.037
" " let parents do other things	-.008	-.307 ^a	-.290 ^a	-.166 ^b	-.014
Small population good for country	-.179	-.263 ^a	-.351 ^a	-.260 ^a	-.014
Birth control is against religion	.298 ^a	.155 ^a	-.319 ^a	.381 ^a	.016
" " " morally wrong	.303 ^a	.147 ^a	.375 ^a	.454 ^a	.074
" " " painful and troublesome	.252 ^a	.095 ^c	.210 ^a	.343 ^a	-.016
Large families are good	.159 ^a	.328 ^a	.477 ^a	.288 ^a	-.019

^aSignificant at .1%

^bSignificant at 1%

^cSignificant at 5%

TABLE 24
CORRELATIONS AMONG BELIEFS ABOUT FAMILY PLANNING

	VARO40	VARO41	VARO42	VARO43	VARO44	VARO45	VARO46	VARO47	VARO48	VARO49	VARO50
Beliefs (attitude on 11 dimensions)											
VARO40 Good for mother's health	1.00										
VARO41 Fewer children easier to bring up	.74	1.00									
VARO42 Fewer children promote family happiness	.53	.68	1.00								
VARO43 Fewer children prevent economic hardship	.55	.61	.70	1.00							
VARO44 Fewer children means mother can work	.52	.63	.67	.76	1.00						
VARO45 Fewer children let parents do other things	.51	.61	.55	.65	.82	1.00					
VARO46 Small population good for our country	.29	.32	.34	.42	.37	.29	1.00				
VARO47 Birth control is against religion	-.12	-.07	-.17	-.14	-.20	-.14	-.26	1.00			
VARO48 Birth control is morally wrong	-.17	-.15	-.18	-.19	-.22	-.18	-.29	.85	1.00		
VARO49 Birth control is troublesome and painful	-.13	-.07	-.17	-.18	-.18	-.11	-.22	-.44	-.44	1.00	
VARO50 Large families are good	-.52	-.58	-.57	-.58	-.56	-.49	-.41	.28	.30	.26	1.00

rotation. Table 25 summarizes factor loadings and communalities of the variables.

The first six beliefs and the last belief, all relating to advantages of fewer children for the family, load highly on the first factor. Although these beliefs concern the advantages of having fewer children across a variety of areas--health, economic well being, family happiness, etc., they all seem to fall under one factor due to a widespread agreement with these advantages.

The second factor has two beliefs that load heavily on it--'birth control is morally wrong' (.899) and 'birth control is against religion' (.927), and a third belief loading moderately--'birth control is painful and troublesome' (.483). One belief--'small population is good for the country'--does not load highly on either of the factors (.406 on first and .279 on the second factor).

This pattern suggests that these factors represent two broad dimensions or components of family planning beliefs, one concerning 'family size' and the second concerning 'birth control.' All beliefs regarding family size implications are in the first factor and all beliefs about birth control are in the second factor. An examination of communalities of beliefs, however, reveals that these two factors account for only 25% or less of the variance of two beliefs--'birth control is painful and troublesome' and 'small population is good for the country.' This means that the second factor represents the religious and moral aspects of birth control.

In order to reduce redundancy and the problem of highly correlated independent variables, we have chosen four beliefs for inclusion

TABLE 25
FACTOR ANALYSIS OF BELIEFS ABOUT FAMILY PLANNING

Varimax Rotated Factor Matrix

Beliefs	Factor Loadings		Communality
	Factor I	Factor II	
Fewer children good for mother's health	.698	-.087	.495
* " " are easier to bring up	.824	-.029	.679
" " promote family happiness	.782	-.120	.626
" " prevent economic hardship	.826	-.120	.697
" " means mother can work	.847	-.148	.740
" " let parents do other things	.768	-.086	.597
*Small population is good for our country	.406	-.279	.243
Birth control is against religion	-.057	.927	.862
* " " " morally wrong	-.111	.899	.821
* " " " painful and troublesome	-.127	.483	.250
Large families are good	-.666	.275	.519

*Beliefs selected for further analysis

in discriminant analysis, as indicated below.

- (1) 'Fewer children are easy to bring up' (representing common factor no. 1)
- (2) 'Birth control is morally wrong' (representing common factor no. 2)
- (3) 'Small population is good for the country'
- (4) 'Birth control is painful and troublesome'

The first two represent the two factors, and are chosen on the basis of high loadings and minimum missing values. The other two have low communalities (.24 and .25 respectively) and are thus considered to be unique factors representing unique dimensions, as is obvious. We thus have four beliefs concerning (i) advantages of fewer children, (ii) religious and moral implications of birth control methods, (iii) national implications of small population, and (iv) health and convenience aspects of birth control methods.

Value Responses of Categories

We now come to the most important part of the study--measurement of values. As mentioned in Chapter IV, measures of values were obtained by asking ECHO questions using four variations eliciting (i) good things to happen, (ii) bad things to happen, (iii) good things to do, and (iv) bad things to do. Each of the four questions was repeated five times. Along with the responses to these value questions, sources of causation for the first two variations and sources of approval/disapproval for the last two variations were also ascertained. Discussion of the sources, however, will be postponed until Chapter VI. The value responses were categorized using the procedure described earlier in Chapter IV.

We first consider the responses and their frequencies as categorized originally. Next, we discuss the unsuccessful attempts to factor analyze these categories to obtain a smaller set of categories. We then present a further categorization arrived at judgementally to facilitate further analysis and interpretation. Using this smaller set of categories, we examine the frequencies of responses among different subgroups of the sample. We then assess the relationships between criteria variables and value responses.

Frequencies of Original Value Categories: The original responses, which were recorded verbatim, were classified into categories for each of the four types of questions separately, yielding a total of 104 categories broken down as follows.

	<u>No. of Categories</u>	<u>No. of Responses</u>	<u>Average No. of Responses per Category</u>
Good Things to Happen	28	1230	44
Bad Things to Happen	26	988	38
Good Things to Do	22	1077	49
Bad Things to Do	28	968	35
Total	104	4263	41

The frequencies of responses for each of the four types of questions are shown in Tables 26 to 29 for the total sample as well as for the practicing and nonpracticing subgroups. Among the most frequently mentioned values--good things to happen--are those concerning 'children's future, getting educated and being worthy' (41%), 'harmony in family' (38%), 'progress in livelihood and occupation' (36%), and 'good crop/agricultural year' (30%). Some of the more frequently mentioned values include 'having a house or land for a house,' 'having material comforts,'

TABLE 26

VALUES: FREQUENCIES OF 'GOOD THINGS TO HAPPEN'

	Tot. Sam.	Users	Non-Users
	No. %	No. %	No. %
N =	406 100.0	197 100.0	209 100.0
GT01 Get More Education	17 4.2	6 3.0	11 5.3
GT02 Village makes Progress	12 3.0	5 2.5	7 3.3
GT03 Nation solves problems/ makes progress	9 2.2	4 2.0	5 2.4
GT04 Secure a Livelihood	61 15.0	28 14.2	33 15.8
GT05 Progress in Livelihood/ Occupation	147 36.2	82 41.2	65 31.1
GT06 Good Crop/Agricultural Year	121 29.8	25 12.7	96 45.9
GT07 Have irrigation facilities	53 13.1	18 9.1	35 16.7
GT08 Secure Land	40 9.9	5 2.5	35 16.7
GT09 Be Free from Poverty	31 7.6	13 6.6	18 8.6
GT10 Have material comforts and riches in life	78 19.2	34 17.3	44 21.1
GT11 Own Property (land/house)	84 20.7	43 21.8	41 19.6
GT12 Financial situation Improves	6 1.5	2 1.0	4 1.9
GT13 Harmony in Family	156 38.4	86 43.7	70 33.5
GT14 Comfortable and peaceful family life	20 4.9	11 5.6	9 4.3
GT15 Happiness of having a family	13 3.2	6 3.0	7 3.3
GT16 Not to have any problems	2 0.5	1 0.5	1 0.5
GT17 Good health for family/husband	50 12.3	23 11.7	27 12.9
GT18 Good Marriages for Children	44 10.8	33 16.8	11 5.3
GT19 Have children	62 15.3	16 8.1	46 22.0
GT20 Not have anymore children	6 1.5	5 2.5	1 0.5
GT21 Children get Education, be worthy	165 40.6	101 51.3	64 30.6
GT22 Be Religious	12 6.3	7 3.6	5 2.4
GT23 Mental Peace and Happiness	4 1.0	1 0.5	3 1.4
GT24 Improve Self--Obtain Higher Qualities	16 3.9	10 5.1	6 2.9
GT25 Keep one's Honor	8 2.0	4 2.0	4 1.9
GT26 Freedom from Life (Death)	3 0.7	2 1.0	1 0.5
GT27 Be able to do what I really want	2 0.5	2 1.0	0 0.0
GT28 Help Others	8 2.0	4 2.0	4 2.0

TABLE 27

VALUES: FREQUENCIES OF BAD THINGS TO HAPPEN

	Tot. Sam.		Users		Non-Users	
	No.	%	No.	%	No.	%
N =	406	100.0	197	100.0	209	100.0
BT01 Not looking after parents	3	0.7	1	0.5	2	1.0
BT02 Harm others	21	5.2	5	2.5	16	7.7
BT03 Irresponsible behavior	1	0.2	1	0.5	0	0.0
BT04 Unethical Behavior	13	3.2	6	3.0	7	3.3
BT05 Bad social customs continue	2	0.5	2	1.0	0	0.0
BT06 Societal Problems	5	1.2	3	1.5	2	1.0
BT07 Problems for the country	5	1.2	3	1.5	2	1.0
BT08 Illness or Disability	247	60.8	119	60.4	128	61.2
BT09 Death	78	19.2	35	17.8	43	20.6
BT10 Accident	16	3.9	13	6.6	3	1.4
BT11 Adverse effect on occupation	61	15.0	40	20.3	21	10.0
BT12 Bad Crop/Agricultural Year	80	19.7	21	10.7	59	28.2
BT13 Poverty/Financial Hardship	33	8.1	20	10.2	13	6.2
BT14 Theft	37	9.1	14	7.1	23	11.0
BT15 Inflation	14	3.4	10	5.1	4	1.9
BT16 Social or Village Disputes	79	19.5	41	20.8	38	18.2
BT17 Domestic Disputes	102	25.1	58	29.4	44	21.1
BT18 Joint Family Breaks Up	6	1.5	3	1.5	3	1.5
BT19 Problems between Husband-Wife	23	5.7	11	5.6	12	5.7
BT19 Family faces Problems	19	4.7	9	4.6	10	4.8
BT21 Children become 'unworthy'	75	18.5	47	23.9	28	13.4
BT22 Children fail School	14	3.4	12	6.1	2	1.0
BT23 Have too many children/girls	9	2.2	3	1.5	6	2.9
BT24 Not have children	7	1.7	1	0.5	6	2.9
BT25 Social Dishonor	20	4.9	12	6.1	8	3.8
BT26 Be misguided/misunderstood	18	4.4	12	6.1	6	2.9

TABLE 28
VALUES: FREQUENCIES OF 'GOOD ACTS'

	Tot. Sam.		Users		Non-Users	
	No.	%	No.	%	No.	%
N =	406	100.0	197	100.0	209	100.0
GA01 Work better and more at job/farm	90	22.2	25	12.7	65	31.1
GA02 Earn a living	65	16.0	23	11.7	42	20.1
GA03 Make progress on farm	28	6.9	14	7.1	14	6.7
GA04 Look after parents/husband inlaws well	153	37.7	68	34.5	85	40.7
GA05 Taking care of family responsibilities	130	32.0	57	28.9	73	34.9
GA06 Keep good relations with relatives and family	22	5.4	11	5.6	11	5.3
GA07 Look after children well	59	14.5	23	11.7	36	17.2
GA08 Get children educated	96	23.6	57	28.9	39	18.7
GA09 Marry children well	43	10.6	21	10.7	22	10.5
GA10 Do needlework, painting, etc.	31	7.6	25	12.7	6	2.9
GA11 Study further	5	1.2	5	2.5	0	0.0
GA12 Adjust to circumstances	3	0.7	1	0.5	2	1.0
GA13 Build a House	18	4.4	11	5.6	7	3.3
GA14 Earn an honest living	22	5.4	16	8.1	6	2.9
GA15 Be hospital to guests	11	2.7	5	2.5	6	2.9
GA16 Be nice to others	31	7.6	9	4.6	22	10.5
GA17 Help others	116	28.6	81	41.4	35	16.7
GA18 Engage in religious activities	38	9.4	14	7.1	24	11.5
GA19 Be charitable	86	21.2	49	24.9	37	17.7
GA20 Help in village activities	4	1.0	2	1.0	2	1.0
GA21 Engage in social service	20	4.9	16	8.1	4	1.9
GA22 Serve the country	6	1.5	6	3.0	0	0.0

TABLE 29

VALUES: FREQUENCIES OF 'BAD ACTS'

	Tot. Sam.		Users		Non-Users	
	No.	%	No.	%	No.	%
N =	406	100.0	197	100.0	209	100.0
BA01 Be irresponsible towards family	23	5.7	12	6.1	11	5.3
BA02 To spend irresponsibly	25	6.2	10	5.1	15	7.2
BA03 Not looking after children well	38	9.4	20	10.2	18	8.6
BA04 Not keeping good relations with family members	18	4.4	13	6.6	5	2.4
BA05 Be irresponsible with husband	21	5.2	12	6.1	9	4.3
BA06 To have too many children	1	0.2	1	0.5	0	0.0
BA07 Not looking after parents/inlaws	11	2.7	5	2.5	6	2.9
BA08 Not working hard	6	1.5	3	1.5	3	1.4
BA09 Not completing obligations	6	1.5	5	2.5	1	0.5
BA10 To cheat, blackmarket	3	0.7	1	0.5	2	1.0
BA11 To indulge in corrupt practices	12	3.0	10	5.1	2	1.0
BA12 Killing a living thing	20	4.9	4	2.0	16	7.7
GA13 To harm a living thing	31	7.6	17	8.6	14	6.7
BA14 To sin	17	4.2	9	4.6	8	3.8
BA15 Stealing	176	43.3	83	42.1	93	44.5
BA16 Immoral Behavior	62	15.3	21	10.7	41	19.6
BA17 Deception	64	15.8	46	23.4	18	8.6
BA18 Telling a lie, perjury	60	14.8	35	17.8	25	12.0
BA19 Factional fighting, rioting, violence	191	47.0	81	41.1	110	52.6
BA20 To abuse	37	9.1	23	11.7	14	6.7
BA21 To criticize, run down others	43	10.6	22	11.2	21	10.0
BA22 To go against social and religious mores--drinking, eating meat, etc.	70	17.2	36	18.3	34	16.3
BA23 To follow bad social customs	2	0.5	2	1.0	0	0.0
BA24 Greedy, selfish behavior	3	0.7	3	1.5	0	0.0
BA25 Discouraging other people	2	0.5	1	0.5	0	0.5
BA26 Wasting time	4	1.0	2	1.0	2	1.0
BA27 To harm others	17	4.2	13	6.6	4	1.9
BA28 Miscellaneous	5	1.2	4	2.0	1	0.5

'having children,' 'securing a livelihood,' 'having irrigation facilities and agricultural land,' 'good health for family members' and 'good marriages for children.' Among the disvalued happenings--bad things to happen--those mentioned most often are, 'illness or disability' (61%), 'domestic disputes' (25%), 'social/village disputes' (20%), 'bad crop/agricultural year' (20%), 'children becoming unworthy' (19%), 'death' (19%), and 'adverse effects on occupation' (15%).

The more commonly mentioned valued acts--good things to do--are 'looking after parents/husband/in-laws well' (38%), 'taking care of family responsibilities well' (32%), 'helping others' (29%), 'getting children educated' (24%), 'working more and better at farm/job' (22%), 'being charitable', 'earning a living' (16%), 'looking after children well' (11%). The disvalued conducts--bad things to do--that are frequently mentioned include 'factional fighting' (47%), 'stealing' (43%), 'going against social and religious mores' (17%), 'deceiving' (16%), 'immoral behavior' (15%), and 'telling lies' (15%).

The ECHO value responses, thus, represent a spectrum of hopes and concerns, as well as modes of valued and disvalued behavior. The main themes concern family harmony (domestic disputes) and welfare, children's future and welfare, occupational hopes and concerns, health (illness), societal or community peace and harmony, better material life and moral codes of conduct. While these 104 categories afford a good appreciation of the value hierarchies of the samples population, a smaller number would be more convenient and manageable for the purpose of further analysis.

Factor Analyses of Value Responses

The responses to value questions, after classification, were coded

as '1' if mentioned by the respondent and '0' otherwise. It thus yielded 104 variables taking values of '1' or '0'. Factor analyses were performed with the objective of reducing the number of categories. The first phase of analyses involved four factor analyses, one for each of the four sets of categories--(i) good things to happen, (ii) bad things to happen, (iii) good things to do, and (iv) bad things to do. In the second phase, a factor analysis of 99 categories (after eliminating 5 of the 104 categories which had frequencies of 1 or 2) from all four sets was performed. Both phases yielded uninterpretable factors and, while the last mentioned factor analysis gave much better results, the four analyses of the first stage completely failed to satisfy the criteria of simple structure. Given the objective of reducing a large number of variables to a few common factors, the simple structure criteria include the following: 1) Each factor will have a high loading on several variables and close to zero on the rest. 2) Each variable will have loadings only on few factors (Aaker, 1971, p. 238). The key characteristics of the factor analyses are summarized in Table 30. As can be seen, the common factors in the first four analyses failed to explain even 25% of the variance of at least half of the variables in analysis. Thus, it is not surprising that approximately a third of variables did not have loadings of .3 or more on any factor. Secondly, very few factors had two or more variables with a moderately high loading (.4 or more) on them. Thus, this phase of factor analysis left a substantial number of variables unexplained and the factors that it yielded were primarily single variable factors. It did, however, give some interpretable factors, but those were exceptions rather than rules. For example, 'progress in

TABLE 30

FACTOR ANALYSES OF VALUES: KEY CHARACTERISTICS

	Good Happen- ings	Bad Happen- ings	Good Acts	Bad Acts	All Variables
No. of original variables	28	26	22	28	99
No. of factors rotated	13	12	10	13	41
No. of variables with h^2 less than .25	14	13	12	16	9
No. of variables with loading over .2 on more than one factor	5	1	5	3	41
No. of factors with 2 or more variables loading .4 or more	3	3	2	1	13
No. of variables that do not have a loading of .3 or more on any factor	10	8	9	9	30
Variance explained by factors	60%	60%	58%	59%	66%

livelihood/occupation' and 'freedom from poverty' had loadings of .49 and .42 on the same factor.

The second analysis which included 99 variables from all four sets yielded 41 factors explaining two thirds of the variance. Although 13 factors had at least two variables each with a loading of .4 or more, 30 variables did not have a loading of .3 or more on any factor. Moreover, 41 variables had a loading of .2 or more on more than one factor, thus yielding a structure that cannot be called simple. Here again, some factors were interpretable, notable among them being one that had 'good crop/agricultural year', 'bad crop/agricultural year', 'progress in occupation', 'adverse effects on occupation' and 'working more/better on farm or job' loading heavily or moderately heavily on it. Another factor seemed to have many of the variables concerning children's welfare loading highly on it, yet another seemed to characterize the underlying dimension of 'harmony and peace among family.' Table 31 shows a summary of main variables with moderate to high loading on all factors. The factor matrix (99 x 41) is not reproduced here since it is of limited usefulness in view of the general lack of interpretability and the fact that it gives little guidance for assigning over 30% of the variables to factors. This factor analysis was, however, useful to a certain extent in that it provided guidelines for grouping some of the categories.

Possible Reasons for Failure of Factor Analyses: We have seen that the factor analyses have been of limited use in reducing categories into a smaller number. Although the second phase analysis had a limited success, there was an opportunity to combine logical opposites and similar concepts expressed under four different sets, something that was not

TABLE 31
FACTOR ANALYSIS OF ALL VALUE RESPONSES

<u>Factor #1</u>	<u>Loading</u>	<u>Factor #7</u>	<u>Loading</u>
GT06 Good crop/Agricultural year	-.71	BA26 Wasting time	.56
BT12 Bad crop/Agricultural year	-.69	BT07 Problems for the country	.52
GA01 Work better and more at job/farm	-.44	GA11 Study further	.45
GT05 Progress in livelihood/occupation	.37	BT23 Have too many children/girls	.30
BT11 Adverse effects on occupation	.29	<u>Factor #8</u>	
<u>Factor #2</u>		BA05 Be irresponsible with husband	.58
BT14 Theft	.63	BA03 Not looking after children well	.50
BT04 Unethical behaviour	.50	GT20 Not have more children	.26
BT02 Harm others	.38	GA07 Look after children well	.25
<u>Factor #3</u>		BA15 Stealing	.28
GA22 Serve the country	.68	<u>Factor #9</u>	
BA11 To indulge in corrupt practices	.58	BT26 Be misguided/misunderstood	.67
BA09 Not completing obligations	.39	GT24 Improve self	.45
BT15 Inflation	.33	<u>Factor #10</u>	
<u>Factor #4</u>		GT23 Mental peace	.65
BA25 Discouraging other people	.51	<u>Factor #11</u>	
BT19 Problems between husband/wife	.50	GT25 Keep one's honor	.70
BA21 To criticize, run down others	.49	BA23 To follow bad social customs	.43
GT22 Be religious	.38	<u>Factor #12</u>	
<u>Factor #5</u>		BA07 Not looking after parents/in-laws	.30
BT01 Not looking after parents	.68	BT24 Not have children	.32
GA12 Adjust to circumstances	.57	<u>Factor #13</u>	
<u>Factor #6</u>		GT21 Children get education, be worthy	.58
GA13 Build a house	.70	BT21 Children become unworthy	.43
GA09 Marry children well	.36	GT19 Have children	-.54
		GT18 Good marriages for children	.25
		<u>Factor #14</u>	
		GT28 Help others	.64
		BA13 To harm a living thing	.34

	<u>Loading</u>		<u>Loading</u>
<u>Factor #15</u>		BA16 Immoral behaviour	-.23
BA10 To cheat, blackmarket	.68	GA03 Make progress on farm	.25
<u>Factor #16</u>		<u>Factor #26</u>	
BT18 Joint family breaks up	.72	BT13 Poverty-financial hardship	.60
BA24 Greedy, selfish behaviour	.27	GT12 Financial situation improves	.45
<u>Factor #17</u>		<u>Factor #27</u>	
BA02 To spend irresponsibly	.53	GT04 Secure a livelihood	.66
<u>Factor #18</u>		<u>Factor #28</u>	
GA21 Engage in social service	.65	GA16 Be nice to others	.64
BA19 Factional fighting	.25	<u>Factor #29</u>	
BA17 Deception	-.30	GT14 Comfortable and peaceful life	.70
<u>Factor #19</u>		<u>Factor #30</u>	
BT17 Domestic disputes	.67	GA15 Be hospitable to guests	.44
<u>Factor #20</u>		GT10 Have material comforts	.31
BT22 Children fail school	.57	<u>Factor #31</u>	
BA08 Not working hard	.34	GT01 Get more education	.44
<u>Factor #21</u>		BA12 Killing a living thing	.42
BA01 Be irresponsible towards family	.53	GT07 Have irrigation facilities	.56
GA05 Taking care of family responsibilities	.27	GT08 Get land	.41
GT17 Good health	.24	<u>Factor #32</u>	
<u>Factor #22</u>		GA20 Help in village activities	.56
BT06 Societal problems	.54	<u>Factor #33</u>	
GT02 Village makes progress	.49	BT10 Accident	-.48
<u>Factor #23</u>		<u>Factor #34</u>	
BA27 To harm others	.58	GA08 Get children educated	.62
GT03 Nation makes progress	.44	<u>Factor #35</u>	
GA17 Help others	.34	GA04 Look after family members	-.31
<u>Factor #24</u>		GA06 Keep good relations with relatives and family	-.49
GA10 Do needle work, painting etc.	-.62	GA19 Be charitable	.24
BT21 Children become unworthy	.21	<u>Factor #36</u>	
<u>Factor #25</u>		BT08 Illness or disability	-.78
GT13 Harmony in family	.29	<u>Factor #37</u>	
GA02 Earn a living	-.20	GA14 Earn an honest living	.56
		BA22 Going against social mores	.37

	<u>Loading</u>		<u>Loading</u>
BA04 Not keeping good relations with family	.25	<u>Factor #40</u>	
<u>Factor #38</u>		BA14 To sin	-.48
GT11 Own house or land	.64	<u>Factor #41</u>	
BT16 Social or village disputes	.29	GT26 Freedom for life (death)	-.47
<u>Factor #39</u>		BT20 Family faces problem	-.24
GT09 Be free from poverty	-.54	GA18 Engage in religious activities	-.23
BT25 Social dishonor	-.36	BA20 To abuse	-.38

available to the first phase analyses. Our experience with these factor analyses of ECHO value responses, however, is not unique. Previous attempts to factor analyze similar data have met with little success (de Mille & Hirschberg, 1972). De Mille and Hirschberg have investigated this problem and attempted factoring using other indices of association (than correlation coefficient, which in this case is the same as phi coefficient) with some success. Their explanation for the lack of success in factor analysing ECHO value responses appears to have validity and could explain our limited success. According to de Mille et al, the use of phi coefficient, which assumes two-valued (in our case 0-1) data, is inappropriate. This is because association between zero values for failure to mention of any two value-concepts is meaningless with our kind of data. The respondents are asked to indicate five value-concepts which are then treated as a number of category variables (22 to 28 in our case) taking a value of one if that concept is mentioned by the respondent and zero if not mentioned. While the positive association between concepts is meaningful, the association between 'concepts not mentioned' is misleading since the respondents did not reject any of the remaining concepts that he did not mention (17 to 23 in our case). Since absence is not an exact complement of presence, the data should really be seen as single-valued rather than two valued.

De Mille and Hirschberg constructed an arithmetic positive-association index that accounts for association between positive mentions for two value concepts. They were able to obtain interpretable factors through successive exclusion of concepts which eliminated 52% to 59% of the concepts (retaining 62% of the data). Their findings lend support

to the explanation they provide for the failure of factor analyses that treat ECHO data as two-valued. However, their own procedure is still experimental, involving a series of runs for successive exclusion of concepts, and results in elimination of nearly half the concepts. Moreover, they have tried their procedure only on 'to do' data and they believe it may not work on 'to happen' data. For all these reasons, we have not attempted to use their procedure.

Final Classification of Value Categories

For the purpose of further analysis, the original 104 categories were grouped into 38 primary categories by combining concepts that were either similar, or opposites, or concerned the same issue. For example, 'children get educated or be worthy', 'children become unworthy', and 'to get children educated' are combined in one category. As an example of issue-related categorization, 'have irrigation facilities', 'have agricultural land' and 'make progress on farm' were combined into a single category. Appendix E contains the list of new categories along with their constituent items. As can be seen from the list, all the 'good and bad things to happen' and some of the 'good and bad acts' were combined to form 23 categories belonging to six broad areas. The remaining fifteen categories concern valued conduct (5 categories) and disvalued conduct (10 categories). This categorization of 104 value-concepts into 38 categories resulted in 14% loss of data (i.e. original 4263 responses were reduced to 3700 responses).

Value Hierarchies

Tables 32 and 33 show frequencies of value categories for the sample

TABLE 35

CHI SQUARE ANALYSIS OF RELATIONSHIPS BETWEEN
VALUE CATEGORIES AND CRITERIA VARIABLES

	N=	Usage	Awareness	Attitude	Intention	Desire for more children
<u>Concerning Children's Welfare</u>		406	406	406	209	406
VC1 Children get education, be worthy		A				A
VC2 Good marriages for children		C				A
VC4 Taking good care of children						C
<u>Concerning Family Size And Planning</u>						
VC3 To have children		A				A
VC6 Not to have too many children						
<u>Concerning Family Life And Welfare</u>						
VC5 Harmony in family		C				
VC6 Happy family life						
VC7 Taking care of family responsibilities					C	
VC8 Taking good care of parents/inlaws/ husband				A		A
VC9 Keeping good relations with family and relatives				B		
VC10 Good health for family members						
VC11 Death or accident						
<u>Concerning Occupation</u>						
VC12 Good Crop/Agricultural year		A	A	B		A
VC13 Progress on farm; have land/ irrigation facilities		A			C	C
VC14 Progress in occupation		B				
VC15 Work better/more at job/farm		A	C	B		
<u>Concerning Economic Welfare</u>						
VC16 Earn a living, get work		C				
VC17 No poverty or hardship						
VC18 Own a house, land for house						

TABLE 38 (contd.)

	Usage	Awareness	Attitude	Intention	Desire for more children
VCA Be materially comfortable & rich			A	A	
VCB Theft					
<u>Concerning Society and Status</u>					
VCC Maintain one's honor in society			D		
VCD Village/society/country solves problems, makes progress, help in its progress			C	B	
<u>Good Acts (Valued Conduct)</u>					
VC19 To help others					
VC20 Be charitable		C		A	
VC21 Be religious	D		A	C	
VC22 To earn a honest living	C				
VC23 Pursue self-development					
<u>Bad Acts (Disvalued Conduct)</u>					
VC24 Engage in factional fighting/ disputes					
VC25 To go against social and religious norms				D	
VC26 To abuse, criticize and not be nice to others		C			
VC27 To steal		D	C		
VC28 Immoral behavior					
VC29 Deception					
VC30 To tell a lie, commit perjury			C		
VC31 Harm others					
VC32 Harm or kill a living thing			D	A	C
VC33 Irresponsible, misguided behavior					

A = Significant at .1%

B = Significant at .1%

C = Significant at .5%

D = Significant at 10%

Predictor Variables: The endogenous variables included as potential predictor variables were: 1) awareness, 2) attitude, 3) desire for more children, 4) ideal number of children as perceived by respondent and 5) four beliefs concerning family planning and family size chosen after factor analysis. From socio-demographic variables, six variables were included on the basis of their intercorrelation and relationships with usage. These were 1) urban/rural residence, 2) age, 3) number of children respondent has, 4) caste, and 5) education. Four media variable, exposure to radio, cinema, newspapers and local people as news source were included. In addition, all value categories were included as potential predictors. A stepwise procedure was used.

Analysis: Table 39 shows the results of discriminant analysis with the coefficients of the variables included. Twenty variables were included in the analysis of which 12 resulted in a change in Rao's V that was statistically significant at 5% level. The discriminant function with a canonical correlation of .781 explained 61% of the total variance.

Among the significant discriminating variables were two socio-demographic variables--urban/rural residence, and education, four endogenous variables--desire for more children, attitude towards family planning, two beliefs representing the two factors--'fewer children are easy to bring up' and 'birth control is morally wrong'. Among the 14 value categories included, one relates to having children, two concern children's welfare, three relate to family life and welfare, two concern economic welfare, one relates to work ethic, one is a valued conduct and four are disvalued conducts.

The standardized discriminant-function coefficients of the variables indicate their relative importance in discriminating users from nonusers. The most important variable is desire for more children, its negative sign indicating its negative relation with usage. The three next most important variables are attitude towards family planning and urban/rural residence, followed by belief about moral implications of birth control. Education is also an important discriminator. Among the discriminating values that are negatively related to usage are 'taking care of children', 'taking care of family responsibilities', 'working more', 'having children' and four disvalued conducts--stealing, mistreating others and immoral behavior. The positively related discriminating values include, 'helping others', 'children get educated and be worthy', 'no poverty or hardship', 'harmony in family', 'happy family life' and 'owning a house or land'. It would appear that the concerns of nonusers are thus more of a 'holding' nature--taking care of children and family responsibilities, etc.--and they share the codes of conduct of a rural or semirural society. The users on the other hand, appear to have a more positive outlook; they wish a good future for children, security against hardship, harmonious and happy family life, helping other people, etc. Considering the homogeneity of the sample, we did not expect values to discriminate between users and nonusers. However, there are some discriminating values, albeit less important than some of the other variables.

Classification and Prediction: Table 40 shows the classification and prediction results. The function estimated on one half of the sample classified 87.2% of those respondents correctly as users or nonusers.

TABLE 39
DISCRIMINANT ANALYSIS

Discriminating Variables		Standardized Discriminant Coefficient	Significance of Wilk's Lambda	Significance of change in Rao's V
VAR001	Urban/Rural Residence	.292	A	A
VAR014	Education of Respondent	.168	A	A
VAR022	Desire for more children	-.488	A	A
VAR032	Attitude towards family planning	.294	A	A
VAR041	Belief: Fewer children are easy to bring up	.077	A	D
VAR048	Belief: Birth control is morally wrong	.215	A	A
VCL	Value: 'Children Get Educa- tion, Be Worthy	.088	A	B
VC3	Value: 'To have Children'	-.071	A	D
VC4	Value: 'Taking good care of children'	-.213	A	A
VC5	Value: 'Harmony among family'	.084	A	D
VC6	Value: 'Happy family life'	.082	A	C
VC7	Value: 'Taking care of family responsibilities	-.112	A	B
VC15	Value: 'Work better/more at farm/job	-.092	A	D
VC17	Value: 'No poverty or hardship'	.088	A	B
VC18	Value: 'Own a home, land for house'	.069	A	D
VC19	Value: 'To help others'	.128	A	C
VC26	Value: 'To mistreat others'	-.077	A	C
VC27	Value: 'To steal'	-.074	A	D
VC28	Value: 'Immoral Behavior'	-.076	A	D
VC31	Value: 'To harm others'	-.089	A	C
Eigenvalue		1.56	Wilk's Lambda	0.39
Canonical Correlation		.781	Chi-Square	179.56
R ²		61%	Significance	0.0

Significance A - .1%, B - 1%, C - 5%, D = 10%.

TABLE 40
DISCRIMINANT ANALYSIS: CLASSIFICATION RESULTS

Classification Results of Estimation Subsample:

Actual Group	No. of Cases (N)	Predicted Group Membership	
		NonUsers	Users
NonUsers	103	91	12
	50.7%	88.3%	11.7%
Users	100	14	86
	49.3%	14.0%	86.0%
Percent of Cases Correctly Classified = 87.2%			

Classification Results of Validation Subsample

Actual Group	No. of Cases (N)	Predicted Group Membership	
		NonUsers	Users
NonUsers	106	72	34
	52.2%	67.9%	32.1%
Users	97	20	77
	47.8%	20.6%	79.4%
	203	92	111
	100%	45.3%	54.7%
Percent of Cases Correctly Classified = 73.4%			

That same function was used to classify the remaining half of the respondents and it correctly classified 73.4% of them as users or nonusers. This is clearly much higher than the chance classification probability, since prior probabilities were almost equal (.52 and .48 for nonusers and users respectively). This, therefore, validates the discriminant estimates.

Conclusion

In this long and voluminous chapter, we have examined the bivariate and multivariate relationships of the variables both among themselves and with the criteria variables. The pattern of relationships confirms the underlying assumptions of our approach that criteria variables are strongly related with each other and are also related with value system of respondents, as well as their perceived value instrumentalities.

CHAPTER VI

DETERMINING COMMUNICATION APPEALS FOR TARGET POPULATION SEGMENTS

Organization

In this chapter we consider application of the segmentation approach and our methodology for choosing communication appeals. The sample is first segmented according to the approach discussed in chapter II, and communication objectives for each of the segments are suggested. We then describe the segments' socio-demographic and media characteristics as well as their knowledge, attitudes and perceptions concerning family planning. Next, value hierarchies of segments are examined. This is followed by an examination of perceived value instrumentalities of "having many children" and "family planning." We then suggest communication appeals for the various segments based on values, instrumentalities and attitudes. Finally, guidance is sought for the source variable in messages from the source data concerning value responses.

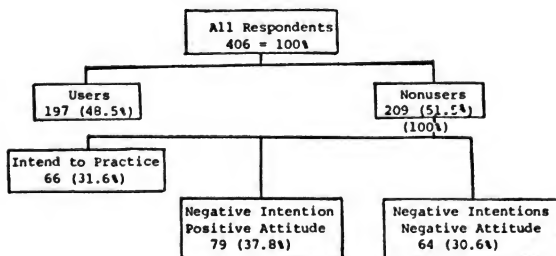
Segmenting the Target Population

Defining Segments

In chapter II a framework for segmenting a target population based on a hierarchy of criteria variables was suggested. The rationale behind such an approach derives from the need for setting different

communication objectives and intervening at different levels in the hierarchy of cognitive and behavioral criteria-variables. Using that approach, we first split the sample into user and nonuser (of family planning) groups on the basis of the final behavioral criterion-variable. The nonuser group is further segmented on the basis of whether or not a nonuser intends to practice family planning in the future, the next criterion-variable in the hierarchy which represents the conative aspect of attitude. Those who do not intend to practice family planning need to be examined for other variables, i.e., affective and cognitive aspects of attitude. Thus, those nonusers who do not intend to practice in the future, are segmented on the basis of their affective attitude towards family planning i.e., whether they approve of family planning. This hierarchy of segments is schematically represented in Figure 3. A further level of segmentation could be based on awareness of family planning. This, however, has not been employed here owing to the very high level of awareness (94%).

Figure 3
Target Population Segments



The four segments--(i) users, (ii) intenders, (iii) non-intenders who approve and (iv) non-intenders who disapprove--need to be treated differentially in terms of communication objectives and strategies, as discussed in the last section of Chapter II. The users require communications that reinforce their behavior and prevent and/or reduce any post-decision dissonance, both to ensure continued usage by users of non-terminal methods, and to facilitate favorable "word-of-mouth" effect by users of terminal as well as non-terminal methods. Communications to the second segment, made up of nonusers who intend to practice family planning in the future, most of whom are relatively young people, desirous of having children, should be aimed at maintaining their favorable predisposition and, in time, converting their intention to behavior. This involves reinforcing positive intention by emphasizing favorable instrumentalities of relevant values and disseminating information concerning methods and services available. The last two segments, consisting of those who do not intend to practice, involve a difficult communication task. In these cases, communication objectives include influencing the segment's attitudes and behavior, which may involve altering value-instrumentalities and even influencing values.

Socio-Demographic Characteristics of Segments

Table 41 summarizes demographic and socio-economic characteristics of all the segments. The users of family planning are predominantly urban dwellers, relatively older with more children (and sons) than nonusers in general. More of them belong to non-agricultural upper castes and Hindu religion. They are largely a literate group and have

TABLE 41

SOCIO-DEMOGRAPHIC AND MEDIA CHARACTERISTICS OF SEGMENTS

	All Respondents	Users of F. P.	Non-Users			
			Intend to Use	Do Not Intend Att. Pos.	Do Not Intend Att. Neg.	Total Non-Users
N =	406	197	66	79	64	209
Demographic Socio-Economic						
Urban Dwellers	51%	76%	26%	28%	31%	28%
Sex - Male Respondents	53%	56%	68%	39%	42%	49%
Age - 30 or under	51%	40%	82%	48%	58%	62%
Caste - Non-Agricultural Upper	40%	56%	35%	24%	16%	25%
Religion - Hindu (non-Moslem)	92%	97%	96%	86%	78%	87%
Education - Illiterate	45%	25%	55%	64%	75%	64%
Income - over Re 200 p.m.	74%	86%	64%	62%	60%	62%
No. of Children - 3 or less	54%	50%	80%	47%	47%	57%
No. of Sons - 2 or more	53%	63%	15%	59%	55%	44%
Family Size - 6 or more members	75%	75%	54%	80%	80%	74%
Media						
Exposure to Radio	78%	86%	82%	70%	58%	70%
Exposure to Cinema	57%	74%	47%	44%	31%	41%
Exposure to Newspapers/Period	40%	62%	28%	22%	10%	20%
Local people as news-sources	53%	39%	59%	70%	69%	66%
Most Trusted Source - Radio	56%	70%	48%	44%	37%	44%
Most Trusted Source - Local People	33%	20%	39%	44%	53%	45%

higher incomes than nonusers.

Among the three nonuser segments, the group consisting of those who intend to practice has significantly different socio-demographic characteristics from the other two groups (made up of those who do not intend to practice). While there are no significant differences among these groups on their place of residence (urban/rural) and income levels, the "intenders" are substantially younger (82% are 30 years or less), have more males among them, have fewer children (and sons) and smaller families than "non-intenders." They have, among them, fewer illiterates, Moslems and those from agrarian and backward castes.

The two groups of "non-intenders," those who have favorable attitude and those with negative attitude towards family planning, are quite similar in their socio-demographic characteristics with the exception of education, age, and caste. The group that approves of family planning has significantly higher literacy level. It also has fewer people from agrarian and backward castes, Moslem religious following, and younger age groups.

Knowledge, Attitude and Perceptions of Segments

Awareness of family planning is near universal among all segments except the last--that of members who have negative intention as well as negative attitude towards family planning. Awareness level among the last mentioned group is 73%. Similarly, over 90% of respondents in all segments except the last--which, by definition, consists of those with negative attitude--approve of family planning. Very few (13%) of the users desire any more children; however, 70% of those

nonusers who intend to practice wish to have more children. Among the nonusers who do not intend to practice family planning, 35% of those with positive attitude and 42% of those with negative attitude desire more children. This pattern is consistent with the demographic characteristics of segments--intenders are considerably younger and have fewer children than nonintending non-users.

The most significant differences among segments concern their preferences for family size. While 74% of users consider "three or less" as the ideal number of children for a couple (three being the number promoted by the government), less than half of the nonusers share this view. In fact, this view of "three or less" as the ideal number of children is held by only 48% of those who intend to practice, 41% of those who do not intend to practice but approve of family planning and a mere 25% of the nonintending and nonapproving segment. A similar pattern can be seen in their perceptions of the number of children considered excessive--about half of "users" and "intenders" consider four (or less) children as too many, but only a quarter of the "nonintending" segments share this view.

As far as beliefs about advantages of fewer children are concerned, all segments, except the last (i.e., with negative intention and negative attitude) have near universal agreement with the stimulus statements (see Table 42). Among the nonintending-nonapproving segment, the topbox ratings (strongly agree) range between 67% and 77% for statements concerning advantages of fewer children. It is, therefore, not surprising that 37% of this last mentioned segment feels that "large families are good." However, while only 29% of users and

TABLE 42

KNOWLEDGE, ATTITUDE, PERCEPTIONS AND BELIEFS
OF SEGMENTS ABOUT FAMILY PLANNING

	All Respondents	Users of F.P.	Intend to Use	Do Not Intend Att. Pos.	Do Not Intend Att. Neg.	Total Non-Users
N =	406	197	66	79	64	209
<u>Knowledge, Attitude and Perceptions</u>						
Awareness of Family Planning	94%	99%	99%	96%	73%	90%
Approval of " "	81%	96%	91%	100%	0%	67%
Desire for more children - <u>yes</u>	31%	13%	70%	35%	42%	49%
Ideal no. of children <u>3 or less</u>	56%	74%	48%	41%	25%	38%
No. of children seen as too many - <u>'over 4'</u>	57%	46%	52%	73%	77%	68%
<u>Beliefs (Perceptions) on Birth Control*</u>						
Fewer Children Good for Mother's Health	93%	97%	97%	96%	75%	90%
" " Easy to Bring Up	94%	98%	97%	97%	73%	90%
" " Promote Family Happiness	94%	97%	97%	99%	77%	91%
" " Prevent Economic Hardship	89%	93%	92%	91%	70%	85%
" " Means Mother Can Work	89%	92%	95%	92%	67%	86%
" " Let Parents Do Other Things	89%	92%	94%	97%	67%	87%
Small Population Good for Our Country	65%	76%	74%	60%	30%	55%
Birth Control is Against Religion	34%	29%	25%	44%	72%	47%
" " Morally Wrong	30%	17%	15%	42%	72%	43%
" " Painful & Troublesome	20%	15%	17%	27%	30%	25%
Large Families are Good	9%	4%	2%	4%	37%	13%
<u>Reasons for Approval/Disapproval</u>						
Easy to Bring Up	27%	34%	29%	29%	0%	20%
Comfortable Life	14%	14%	21%	22%	0%	15%
Economic Need/Inflation or Draught	21%	24%	23%	29%	2%	19%
Against Religion/Immoral	4%	0%	2%	0%	26%	8%
Anti God's Will	6%	0%	2%	0%	36%	11%
Ruins Health	6%	2%	3%	2%	26%	9%
<u>Reasons for Not Practising F.P.</u>						
Want more children/sons	--	--	69%	32%	10%	38%
Anti God's Will/Anti Religion/Immoral	--	--	2%	10%	52%	19%
Ruins Health	--	--	5%	16%	24%	15%
Do Not Need	--	--	17%	29%	3%	17%
<u>Reasons for People in General Not Practising</u>						
Religion/Moral	8%	4%	2%	7%	28%	11%
Disapproval/Dislike by Family members	18%	24%	16%	12%	11%	13%
Fear, hesitation (fear of health)	40%	42%	45%	47%	26%	10%

*Top Box % = 'Strongly Agree'

25% of those who intend to practice feel that birth control is against religion, 44% of nonintenders who approve and 72% of nonintenders who disapprove feel this way. Similarly, while only about a sixth of users and intenders consider birth control morally wrong, 42% of nonintenders who approve and 72% of nonintenders who disapprove consider it morally wrong. Moreover, 30% of "negative intention and negative attitude" group considers birth control painful and troublesome, as against 17% among intenders. Segments also differ in their views about whether small population is good for the country. While three quarters of users and intenders, and 60% of nonintenders who approve feel that small is good for the country, only 30% of the nonintenders who disapprove feel so.

We, thus, have a picture of the segments in terms of their attitudes and perceptions about family planning. It is clear that those non-users who intend to practice family planning have attitudes very similar to those of users in all respects. The segment consisting of nonintenders who, nevertheless, have positive attitude shares the views of users and intenders regarding the advantages of fewer children. The "nonintending and nonapproving" segment has an undesirable family size preference, and a sharply negative perception of religious and moral aspects of birth control. One out of four in this group lack awareness of family planning. The middle group (made up of nonintenders who approve) is not so sharply defined in its predispositions--it has moderate levels of negative perceptions of religious and moral aspects of birth control and family size preference that falls between that of intenders and nonapproving nonintenders.

The objectives of communication for the "nonintending-nonapprovers," therefore, involve altering strong attitudes towards family size as well as birth control. This task would be less difficult for the nonintenders who approve of family planning.

Reasons for Attitude and Behavior: Respondents gave their reasons for approval/disapproval of family planning and for not practicing family planning. These are shown in Table 42. The two most important reasons for positive attitude were "easy to bring up fewer children" and "economic situation--inflation, draught, etc." Another frequently mentioned reason was "comfortable life." The most common reasons for disapproval were: (i) it is anti-god's will (ii) it is anti-religious or immoral, and (iii) it ruins health.

Among the reasons for not practicing family planning, most (69%) of those who intend to practice gave their reason as wanting more children while only a third of those who approved, but did not intend to use, gave the same reason. Many (29%) of this last mentioned group felt they did not need it. Over one half of the negative-intention and negative-attitude segment said they did not use family planning because it was "anti-god, anti-religion, or immoral," and a quarter of them felt it ruins health.

When asked to speculate on why other people could not use family planning even if they wanted to, most commonly mentioned reason was "fear, hesitation and fear of health." Two other reasons mentioned were "disapproval/dislike by family members" (18%) and "religion or moral considerations" (8%), the last being mentioned by 28% of the nonintending non-approving segment.

These open-ended responses confirm our conclusions about dimensions of attitudes and the positions that different segments take on them. Advantages of fewer children in terms of economic need and easier care and up-bringing are widely shared. Nonintending nonusers have negative attitude on health and "god-religion-moral" related grounds.

Value Hierarchies of Segments

It was argued in Chapter II that an individual's value system influences his system of attitudes (towards objects) and patterns of behavior. In order to influence or modify attitudes and behavior of any target population, it is therefore important to understand its value system and how these values are perceived to be related to the attitude object and behavior in question. In this section we examine the value hierarchies of the four segments, both to understand their value systems as well as to identify any significant differences in their respective value hierarchies. In the next section, perceived value-instrumentalities of family planning and family size will be examined.

Table 43 shows frequencies of mention of value categories by all segments and Table 44 summarizes twelve most frequently mentioned values by each segment. The first five values in the value hierarchies of both users and nonusers (total) include one value each concerning health, children's welfare, family harmony, community disputes, and occupation. From among these five top-ranking values, only two are, however, equally popular among both groups. One is "good health for family members." Another concerns occupation; "progress in occupa-

TABLE 43
VALUE HIERARCHIES OF SEGMENTS

	Total	Users	Non-Users			
			Tot. Intend		Don't Intend	
			Att. +	Att. -	Att. +	Att. -
<u>Concerning Children's Welfare</u> M =	406	197	209	66	79	64
VC1 Children get education, be worthy	60%	73% ^a	47% ^a	41%	48%	52%
VC2 Good marriages for children	20%	24% ^f	15% ^c	12%	18%	16%
VC4 Taking good care of children	21%	19%	22%	15%	25%	25%
<u>Concerning Family Size And Planning</u>						
VC3 To have children	16%	9% ^a	23% ^a	32% ^c	24% ^c	14% ^c
VCE Not to have too many children	4%	5%	3%	6%	3%	2%
<u>Concerning Family Life And Welfare</u>						
VC5 Harmony in family	55%	60% ^c	50% ^c	47%	56%	47%
VC6 Happy family life	12%	13%	11%	5%	13%	14%
VC7 Taking care of family responsibilities	37%	34%	40%	27% ^c	46% ^c	45% ^c
VC8 Taking good care of parents/inlaws/ husband	41%	40%	43%	46% ^a	54% ^a	25% ^a
VC9 Keeping good relations with family and relatives	9%	11%	8%	7% ^c	13% ^c	2% ^c
VC10 Good health for family members	64%	64%	63%	58% ^a	58% ^a	75% ^a
VC11 Death or accident	23%	23%	22%	17%	29%	19%
<u>Concerning Occupation</u>						
VC12 Good Crop/Agricultural year	34%	15% ^a	52% ^a	58%	48%	50%
VC13 Progress on farm; have land/ irrigation facilities	23%	15% ^a	31% ^a	41% ^c	33% ^c	19% ^c
VC14 Progress in occupation	41%	48% ^b	34% ^b	44% ^a	22% ^b	41% ^b
VC15 Work better/more at job/farm	23%	14% ^b	32% ^a	35%	25%	36%
<u>Concerning Economic Welfare</u>						
VC16 Earn a living, get work	30%	24% ^c	35% ^c	29%	43%	31%
VC17 No poverty or hardship	18%	20%	15%	11%	13%	23%
VC18 Own a house, land for house	24%	26%	22%	18% ^c	17% ^c	33% ^c

TABLE 43 (contd.)

	Total	Users	Non-Users			
			Tot.	Intend.	Don't Att.	Intend.
VCA Be materially comfortable & rich	19%	17% ^a	21%	18%	22%	23%
VCB Theft	9%	7%	11%	11%	13%	9%
<u>Concerning Society and Status</u>						
VCC Maintain one's honor in society	6%	8%	5%	3%	5%	8%
VCD Village/society/country solves problems, makes progress, help in its progress	13%	17% ^c	9%	17%	4%	6%
<u>Good Acts (Valued Conduct)</u>						
VC19 To help others	29%	42% ^a	17% ^a	48%	18%	14%
VC20 Be charitable	21%	25%	18%	33% ^a	8% ^a	14% ^a
VC21 Be religious	12%	11%	12%	8%	13%	17%
VC22 To earn a honest living	9%	14% ^a	5% ^a	5%	4%	6%
VC23 Pursue self-development	17%	23% ^a	11% ^a	11%	11%	11%
<u>Bad Acts (Disvalued Conduct)</u>						
VC24 Engage in factional fighting/ disputes	56%	51% ^c	60% ^c	59%	62%	58%
VC25 To go against social and religious norms	19%	20%	18%	21%	15%	17%
VC26 To abuse, criticize and not be nice to others	25%	25%	24%	20%	28%	25%
VC27 To steal	43%	42%	45%	44%	42%	48%
VC28 Immoral behavior	15%	11% ^c	20% ^c	18%	22%	19%
VC29 Deception	16%	23% ^c	9% ^c	14%	9%	3%
VC30 To tell a lie, commit perjury	15%	18%	12%	18%	10%	8%
VC31 Harm others	9%	9%	10%	15%	9%	5%
VC32 Harm or kill a living thing	16%	15%	18%	20%	19%	14%
VC33 Irresponsible, misguided behavior	7%	10% ^c	4% ^c	6%	5%	2%

^a = Significant at .1%^b = Significant at 1%^c = Significant at 5%

TABLE 44

VALUE HIERARCHIES OF SEGMENTS: TOP TWELVE VALUES

	Total Sample	Users of F.P.	Non-Users			
			Total	Intend to Use	Do Not Att. +	Intend Att. -
N =	406	197	209	66	79	64
	Rank/ Freq.	Rank/ Freq.	Rank/ Freq.	Rank/ Freq.	Rank/ Freq.	Rank/ Freq.
VC10 Good health for family members	1/64	2/64	1/63	2/58	2/58	1/75
VC1 Children get education, be worthy	2/60	1/73	5/47	8/41	5/48	3/52
VC24 Engage in factional fighting/ disputes	3/56	4/51	2/60	1/59	1/62	2/58
VC5 Harmony in family	4/55	3/60	4/50	4/47	3/56	6/47
VC27 To steal	5/43	6/42	6/45	6/44	9/42	5/48
VC14 Progress in occupation	6/41	5/48	10/34	7/44	*/22	8/41
VC8 Taking good care of parents/ infants/husband	7/41	8/40	7/43	5/46	4/54	12/25
VC7 Taking care of family responsibilities	8/37	9/34	8/40	*/27	7/46	7/45
VC12 Good crop/agricultural year	9/34	/15	3/52	3/58	6/48	4/50
VC16 Earn a living/get work	10/30	/24	9/35	*/29	8/43	11/31
VC19 To help others	11/29	7/42	*/17	*/18	*/18	*/14
VC26 To mistreat others (abuse, not be nice)	12/25	11/25	*/24	*/20	12/28	*/25
VC18 To own a house or land for a house	13/24	10/26	*/22	*/18	*/17	10/33
VC15 Work better/more at job, farm	*/23	*/14	11/32	10/35	*/25	9/36
VC13 Progress on farm: have land/ irrigation facilities	*/23	*/15	12/31	9/41	10/33	*/19
VC11 Death or accident	*/23	*/23	*/22	*/17	11/29	*/19
VC20 Be charitable	*/21	*/25	*/18	11/33	*/8	*/14
VC3 To have children	*/16	*/9	*/23	12/32	*/24	*/14

*Not among twelve most frequently mentioned values

tion" among users (48%), and "good crop/agricultural year" among nonusers (52%). The other three values, while among the top five ranks for both groups, have significantly different frequencies. Thus, the top ranking value among users, "children get education, be worthy" (73%) is mentioned by only 47% of nonusers and is the fifth most frequently mentioned value. Similarly, the third most popular value of "harmony in family" (60%) among users is the fourth ranking value mentioned by 50% among nonusers. "Factional fighting/disputes" is mentioned by 60% of the nonusers as against 51% of users. Three more values among the top twelve that are equally popular in both groups are "to steal," "taking good care of parents/inlaws/husband," and "taking care of family responsibilities." Three values in the hierarchy of first 12 values of users that do not appear in the top 12 values of nonusers are: (i) "to help others," (42%), (ii) "to mistreat others" (25%), and (iii) "to own a house or land for house" (26%). Three values that are among the top 12 values of nonusers but not among those of users are: (i) "work better/more at job/farm" (32%), (ii) "progress on farm-have land, irrigation facilities etc." (31%), and (iii) "earn a living/get work" (35%). The nonusers are, it appears, more concerned about work, earning a living and progress on farm. Moreover, while they share the values of family welfare and harmony, and children's future, these values are significantly more widespread among users. The users also mention nearly all categories of valued conduct more often than do nonusers.

Values of Nonusing Segments: The three nonuser segments all share among themselves the more commonly held values, with some exceptions. For example, among the nonusers who intend to use family planning,

concern for children's future is not so widespread, perhaps because so many of them are young people without children. In fact, a third of them have mentioned "having children" as a good thing to happen. Values concerning progress on farm and occupation--good crop and progress in occupation--are more widespread among those who intend to use family planning than among the non-intenders. Between the nonintenders who approve of family planning and those who disapprove there are some differences. More of those who disapprove are concerned with "good health," and "owning a house or land for a house" than those who approve. Among the latter, concerns about family welfare and progress on farm are more widespread.

Value-Instrumentalities of Segments

We have seen that value hierarchies of different segments of our target population are essentially similar. While there are some differences in the values of different segments, differences are stronger and more widespread between urban and rural and between male and female subgroups (see Chapter V). This is not surprising in view of the fact that within primary demographic subgroups, respondents are from quite homogenous populations. However, differences among segments are more widespread in their perception of value-instrumentalities of family size and family planning. Perceived instrumental relations between each of the values mentioned by respondents and "having many children" and "family planning" are summarized in Table 45 for users and nonusers and in Table 46 for the three nonuser segments. It is to these perceived instrumentalities that we must look for differences across segments and

TABLE 45 (Part A)

INSTRUMENTAL RELATIONS OF VALUES WITH 'HAVING MANY CHILDREN'

		All Resp.			Users			Non-Users		
		No.	Rel	Rel	No.	Rel	Rel	No.	Rel	Rel
		Men	Pos	Neg	Men	Pos	Neg	Men	Pos	Neg
<u>Concerning Children's Welfare</u>		406	1	1	197	1	1	209	1	1
VC1	Children get education, be worthy	239	5	80	143	5	83	96	5	74
VC2	Good marriages for children	81	3	73	48	4	69	33	0	79
VC4	Taking good care of children	86	8	91	40	13	88	46	4	94
<u>Concerning Family Size And Planning</u>										
VC3	To have children	60	18	30	17	47	18	43	7	35
VCE	Not to have too many children	12	25	25	6	33	17	16	17	33
<u>Concerning Family Life And Welfare</u>										
VC5	Harmony in family	224	7	79	119	3	86	105	11	71
VC6	Happy family life	45	7	58	26	0	65	19	16	47
VC7	Taking care of family responsibilities	149	18	70	66	12	80	83	23	61
VC8	Taking good care of parents/inlaws/ husband	166	6	74	77	4	79	89	8	70
VC9	Keeping good relations with family and relatives	37	5	76	23	4	74	14	7	79
VC10	Good health for family members	255	2	60	124	0	69	131	3	59
VC11	Death or accident	92	1	28	46	0	33	46	2	24
<u>Concerning Occupation</u>										
VC12	Good Crop/Agricultural year	137	11	15	29	14	17	108	10	15
VC13	Progress on farm; have land/ irrigation facilities	93	3	36	28	4	39	65	3	34
VC14	Progress in occupation	166	8	24	95	5	24	71	11	23
VC15	Work better/more at job/farm	95	32	57	29	28	59	66	33	56
<u>Concerning Economic Welfare</u>										
VC16	Earn a living, get work	122	11	60	49	8	63	73	12	58
VC17	No poverty or hardship	73	15	62	41	7	73	32	25	47
VC18	Own a house, land for house	98	9	78	51	4	86	47	15	68

TABLE 45 (Part B) (contd.)

		All Resp.			Users			Non-Users		
		No.	Rel	Fel	No.	Rel	Fel	No.	Rel	Fel
		Men	Pos	Neg	Men	Pos	Neg	Men	Pos	Neg
VCA	Be materially comfortable & rich	77	56	4	34	62	0	43	51	7
VCB	Theft	36	28	0	14	29	0	22	27	0
	<u>Concerning Society and Status</u>									
VCC	Maintain one's honor in society	24	29	4	14	36	0	10	20	10
VCD	Village/society/country solves problems, makes progress, help in its progress	50	52	4	33	56	6	17	41	0
	<u>Good Acts (Valued Conduct)</u>									
VC19	To help others	115	94	0	81	80	0	34	85	0
VC20	Be charitable	79	72	0	47	75	0	32	69	0
VC21	Be religious	49	69	2	22	82	5	27	59	3
VC22	To earn a honest living	40	53	0	29	66	0	11	18	0
VC23	Pursue self-development	69	33	3	45	51	2	24	42	8
	<u>Bad Acts (Disvalued Conduct)</u>									
VC24	Engage in factional fighting/ disputes	220	2	69	101	2	65	119	2	71
VC25	To go against social and religious norms	74	4	32	37	5	35	37	3	30
VC26	To abuse, criticize and not be nice to others	101	2	43	50	4	42	51	0	43
VC27	To steal	170	1	60	81	0	64	89	1	56
VC28	Immoral behavior	62	0	31	23	0	35	39	0	28
VC29	Deception	64	3	44	47	2	47	17	6	35
VC30	To tell a lie, commit perjury	59	0	44	35	0	51	24	0	33
VC31	Harm others	38	0	32	17	0	35	21	0	29
VC32	Harm or kill a living thing	66	0	27	29	0	31	37	0	49
VC33	Irresponsible, misguided behavior	29	3	48	17	0	53	12	8	42

TABLE 46 (Part A)

INSTRUMENTAL RELATIONS OF VALUES WITH 'HAVING MANY CHILDREN'--NONUSER SEGMENTS

		Intend			Do Not Intend					
		No.	Rel	Rel	Att.	Pos.	No.	Rel	Rel	Att.
		Men	Pos	Neg	Men	Pos	Men	Pos	Neg	Men
<u>Concerning Children's Welfare</u>		66	1	1	79	1	1	64	1	1
VC1	Children get education, be worthy	27	7	78	38	5	79	31	3	65
VC2	Good marriages for children	8	0	100	15	0	87	10	0	50
VC4	Taking good care of children	10	10	90	20	0	95	16	6	94
<u>Concerning Family Size And Planning</u>										
VC3	To have children	18	6	56	18	6	17	7	14	29
VCZ	Not to have too many children	3	0	33	2	50	0	1	0	100
<u>Concerning Family Life And Welfare</u>										
VC5	Harmony in family	32	3	78	43	7	74	30	23	57
VC6	Happy family life	2	0	100	9	11	33	8	25	50
VC7	Taking care of family responsibilities	18	11	83	36	19	58	29	35	52
VC8	Taking good care of parents/in-laws/ husband	30	3	80	43	7	72	16	19	44
VC9	Keeping good relations with family and relatives	5	0	80	8	13	75	1	0	100
VC10	Good health for family members	38	3	71	45	2	56	48	4	31
VC11	Death or accident	11	0	46	23	0	13	12	8	25
<u>Concerning Occupation</u>										
VC12	Good Crop/Agricultural year	38	3	24	38	11	13	32	19	6
VC13	Progress on farm; have land/ irrigation facilities	27	0	44	25	4	24	13	8	31
VC14	Progress in occupation	27	7	22	18	0	28	26	23	19
VC15	Work better/more at job/farm	23	26	61	20	20	65	23	52	44
<u>Concerning Economic Welfare</u>										
VC16	Earn a living, get work	20	20	60	33	6	55	20	15	60
VC17	No poverty or hardship	7	14	43	10	20	60	15	33	40
VC18	Own a house, land for house	13	8	92	13	0	77	21	29	48

TABLE 46 (Part B)--continued

		Intend			Do Not Intend						
		No.	Rel Men	Rel Pos Neg	Att. Pos.			Att. Neg.			
					No.	Rel Men	Rel Pos Neg	No.	Rel Men	Rel Pos Neg	
VCA	Be materially comfortable & rich	12	92	0	16	50	6	15	20		
VCB	Theft	7	43	0	9	22	0	6	17	0	
	<u>Concerning Society and Status</u>										
VCC	Maintain one's honor in society	2	0	0	4	25	0	4	25	25	
VCD	Village/society/country solves problems, makes progress, help in its progress	10	70	0	3	0	0	4	0	0	
	<u>Good Acts (Valued Conduct)</u>										
VC19	To help others	11	91	0	14	79	0	9	89	0	
VC20	Be charitable	17	94	0	7	29	0	8	50	0	
VC21	Be religious	8	100	0	8	50	0	11	36	0	
VC22	To earn a honest living	4	25	0	3	33	0	4	0	0	
VC23	Pursue self--development	7	57	14	10	20	10	7	57	0	
	<u>Bad Acts (Disvalued Conduct)</u>										
VC24	Engage in factional fighting/ disputes	39	0	69	45	4	82	35	0	60	
VC25	To go against social and religious norms	14	0	50	12	8	8	11	0	27	
VC26	To abuse, criticize and not be nice to others	13	0	62	21	0	33	17	0	41	
VC27	To steal	29	0	69	31	3	61	29	0	38	
VC28	Immoral behavior	12	0	33	16	0	31	11	0	18	
VC29	Deception	8	0	38	7	14	43	2	0	0	
VC30	To tell a lie, commit perjury	11	0	55	8	0	25	5	0	0	
VC31	Harm others	10	0	40	7	0	14	4	0	25	
VC32	Harm or kill a living thing	13	0	92	15	0	33	9	0	11	
VC33	Irresponsible, misguided behavior	4	25	25	6	0	67	2	0	0	

potential sources for communication appeals. We consider these relationships by groups of value categories.

Health: "Good health" is the most widely held value, mentioned by nearly two-thirds of all respondents. However, there are differences in the extent to which various segments perceive its relationship with "having many children" and "family planning," as can be seen from the table below. While most of the "users" and "intenders" perceive a

	SEGMENTS			
	1 Users	2 Intenders	3 Non-Intending Approvers	4 Non-Intending Non-Approvers
Good Health for Family Members				
% of Segment Mentioning	64	58	58	75
* Negative Relation with "having many children"	69%	71%	56%	31%
* Positive Relation with "family planning"	43%	58%	20%	15%

negative instrumental relationship between having many children and good health, the proportion of such people is significantly smaller among "nonintenders who approve" and even smaller among "nonintenders with negative attitude." Similarly, very few of those in the third and fourth segment perceive a positive relation between family planning and good health. In fact, some (8%) of the "negative attitude & intention" segment-members see a negative instrumental relationship, reflecting the fears concerning adverse effects of family planning on health. There is, thus, a widespread lack of appreciation of health related benefits of practicing

*Represents percentage of those mentioning. The balance saw either an opposite (positive or negative) relation or no relation. See Tables 45 and 46 for details.

family planning among those who have not been persuaded to practice it; and there is some indication that some of them may perceive it negatively on this dimension. This is consistent with the open-ended responses given as reasons for nonpractice of family planning.

Children's Welfare: Another most popularly held value is "children get education, be worthy." There is a greater appreciation of value-instrumentalities of family planning and size with this than was the case with "health." Even here, however, the proportion among "negative intention-negative attitude" segment that perceives the favorable relationships (i.e., negative with having many children and positive with family planning) is smaller. (See table below)

	SEGMENTS			
	1	2	3	4
<u>"Children get Education, Be Worthy"</u>				
% of Segment Mentioning	73	41	48	52
Negative relation with "having many children"	83%	78%	79%	65%
Positive relation with "family planning"	82%	85%	71%	58%

Nevertheless, it appears that by making these value-instrumentalities and their inconsistency with negative attitude/behavior of the last two segments salient, it may be possible to influence their attitudes and behavior

Family Harmony and Welfare: Several values concerning harmony among and welfare of family were frequently mentioned by all segments. Value-instrumentalities of three popularly held values are examined here. The table below summarizes the relationships.

	Segments			
	1	2	3	4
<u>Harmony among Family</u>				
% of segment mentioning	60	47	56	47
Negative relation with 'having many children'	86%	78%	74%	57%
Positive relation with Family Planning	75%	61%	65%	50%
<u>Taking good care of parents/ inlaws/husband</u>				
% of segment mentioning	34	27	46	45
Negative relation with 'having many children'	80%	83%	58%	52%
Positive relation with 'family planning'	71%	89%	42%	38%
<u>'Taking care of family responsibilities'</u>				
% of segment mentioning	40	46	54	25
Negative relation with 'having many children'	79%	80%	72%	44%
Positive relation with 'Family Planning'	65%	77%	58%	38%

Here again, the pattern is similar to that concerning children's future and welfare--value instrumentalities are generally favorable but are less widespread among the last two segments. There is an important difference, however, in that, unlike in the case of values concerning children, significant proportions of the last segment perceive unfavorable value instrumentalities for this group of values. Thus, among the members of the last (negative intention and attitude) segment, 'having many

children' is perceived to help 'harmony among family' by 23%, 'taking good care of parents/inlaws/husband' by 19% and 'taking care of family responsibilities' by 35% (Table 46). This is consistent with 'family size' attitudes of this segment--37% strongly believing that large families are good. These instrumentalities, thus explain some of the reasons for this segment's preference for large family size and negative attitude towards family planning. The central and important place of family harmony and welfare related values in their value-system and the positive instrumentality of a large family with many children is partly responsible for the segment's attitudes and behavior concerning family planning.

Values concerning occupation: Two occupation-related values--'progress in occupation' and 'good crop/agricultural year'--were among the five topranking values of user and nonuser groups respectively. Two other frequently mentioned values, particularly by the nonuser segments are 'progress on farm' and 'work better/more at job/farm'. Perceived instrumentalities of family size and family planning with these values are summarized below.

	Segments			
	1	2	3	4
<u>Progress in Occupation</u>				
% of segment mentioning	48	44	22	41
Negative relation with 'having many children'	24%	22%	28%	19%
Positive relation with 'family planning'	24%	26%	35%	12%

	Segments			
	1	2	3	4
<u>Good Crop/Agricultural Year</u>				
% of segment mentioning	15	58	48	50
Negative relation with 'having many children'	17%	24%	13%	6%
Positive relation with 'Family Planning'	10%	29%	5%	6%
<u>Progress on farm--Have land, Irrigation facilities</u>				
% of segment mentioning	15	41	33	19
Negative relation with 'having many children'	39%	44%	24%	31%
Positive relation with 'Family Planning'	36%	41%	25%	23%
<u>Work more/better at job/farm</u>				
% of segment mentioning	14	35	25	36
Negative relation with 'having many children'	59%	61%	65%	44%
Positive relation with 'Family Planning'	52%	48%	55%	39%

Most people across all segments do not perceive any instrumental relationship (positive or negative) between family size and family planning on the one hand, and 'progress in occupation' and 'good crop/agricultural year' on the other hand. To be sure, there are differences in the perceptions of various segments--fewer among the 'negative intention-negative attitude' segment see the relationships in favorable direction. In fact, among this last segment 'having many children' is considered helpful for a 'good crop/agricultural year' by 19% and for 'progress in occupation' by 23%. The instrumentalities of family size and family

planning with 'progress on farm', an important concern among nonusers, are, although only marginally, also different across segments. A similar pattern exists for the value 'work more/better at job/farm', whose favorable relations are more widespread in all segments.

However, among all segments significant relationships in the opposite direction (i.e. many children help and family planning hinders working more/better on job/farm) exist, and these are more marked among the last segment. For comparison, the figures are shown below. Thus, among this last segment, more people perceive the instrumental relationship to be unfavorable (for acceptance of family planning) than those who

	Segments			
	1	2	3	4
<u>Working more/better on job/farm</u>				
Helped by 'having many children'	28%	26%	20%	52%
Hindered by 'family planning'	28%	13%	15%	39%

perceive them to be favorable. It is here that we find evidence for two strong sources of negative attitudes toward family planning, (i) the economic value of children for working on farm, and (ii) the belief that family planning (sterilization) adversely affects one's health, and renders one too weak for hard physical labor. The existence of the second reason is corroborated by other data from the study, the first one is not mentioned in other places. Moreover, in spite of the popularity of positive value of more children for farm work among the hardcore non-user segment, an opposite belief is held by nearly half the segment. Thus, it would seem that this unfavorable instrumental relationship can be

altered through carefully designed and executed communications.

Economic betterment: Two values concerning economic welfare--'earn a living, get work' and 'own a house/land for house'--were among the hierarchy of twelve most important values for some of the segments. Two other values--'no poverty or hardship' and 'be materially comfortable and rich' were also mentioned by nearly one out of five respondents. The value-instrumentalities of family size and family planning with these values are summarized below. For values concerning economic security--earning a living and no poverty--the relationships are largely favorable for all segments. However, as many as 33% of the 'negative-intention and negative attitude' segment and 20% of 'negative-intention and

	Segment			
	1	2	3	4
<u>Earn a living, get work</u>				
% of segment mentioning	24	29	43	31
Negative relation with 'having many children	63%	60%	55%	60%
Positive relation with 'Family Planning'	57%	60%	52%	50%
<u>No Poverty, Hardship</u>				
% of segment mentioning	20	11	13	23
Negative relation with 'having many children	73%	43%	60%	40%
Positive relation with 'Family Planning	60%	14%	60%	35%

positive-attitude' segment perceive positive relation between 'having many children' and 'no poverty or hardship', indicating economic dependence

on and expectation from children. The relationship between 'owning a house' and family size and family planning is perceived to be favorable

	Segment			
	1	2	3	4
<u>Own a house, land for house</u>				
% of segment mentioning	26	18	17	33
Negative relation with 'having many children'	86%	92%	77%	48%
Positive relation with 'Family Planning'	84%	92%	62%	43%
<u>Be materially comfortable & rich</u>				
% of segment mentioning	17	18	22	23
Negative relation with 'having many children'	59%	75%	35%	27%
Positive relation with 'Family Planning'	62%	92%	50%	20%

by most people in all segments except the last, of which 29% see a positive relation between 'having many children' and owning a house. Both segments of nonintenders do not perceive favorable relationships with being materially comfortable nearly as widely as the other two segments and in both segments about 20% see many children as being helpful in material betterment. Thus, the economic values, which are not nearly as important in the hierarchy as others discussed earlier, would appear to be relatively less important in influencing attitudes and behavior, although they do provide one dimension that should be used, along with other important ones, in persuasive communications.

Valued and disvalued Conduct: Among the more important valued

and disvalued modes of conduct that were mentioned by the sample are: factional fighting, stealing, helping others, mistreating others and being charitable. Instrumental relations of family size and family planning with most of these and other values in this group were either perceived to be predominantly favorable or these were seen to be largely unrelated. However, in many cases (see Table 46) significantly smaller proportions from the last two segments (nonintenders) saw the relationships to be favorable. Notable among such values are: factional fighting, stealing, to harm or kill or to sin, being charitable and being religious. There were very few people who saw any unfavorable relationships. The widespread favorable instrumentalities reflect an ability to engage in good acts because of greater economic and personal freedom resulting from fewer children and lighter family responsibilities. As for the bad acts, the instrumentalities reflect possibilities of children committing bad acts or, respondents being driven to engage in the same owing to economic necessity, in both cases as a result of having a large family.

The instrumentalities of modes of behavior are not as diverse across segments as those of 'good and bad things to happen'. To that extent, these are less useful as sources of communication appeals. However, the strongly held moral values relating to code of conduct among rural population and their perceptions of the likelihood of children going astray, provide a potentially effective appeal for promoting family limitation.

Suggested Communication Appeals

We have examined the attitudes, values and value-instrumentalities

of all the segments. Based on these, we are now ready to make some suggestions about communication appeals that are likely to be effective in promoting family planning practice among different segments. We will first summarize our views on where intervention is needed for each of the segments, before discussing specific appeals.

Segment #2: Nonusers who intend to practice: Most of these people (90%) wish to have more children and 80% of them now have three or less. Their attitudes towards family planning are favorable and so are their perceived value-instrumentalities. However, less than half of them consider three (or less) as the ideal number of children for a couple (as against 74% of users holding this view). Thus, intervention is desirable, for this group, in their family size attitude to make more of them accept the ideal number of three or less. Their positive intention to practice family planning must be reinforced and converted to behavior in time. These two objectives can be so achieved by reinforcing the favorable instrumental relationships of family planning with their important values (reinforcement), and by providing information and advice about methods and services to help make the transition to practice. The former can be used to promote smaller family size ideal and spacing, since the majority of these are young people. The following appeals drawn from their value hierarchy, can be used in communications.

1. Family planning--fewer children and spacing--promotes good health for the entire family. (The later relationship--birth control and good health--needs to be stressed both to establish this favorable instrumentality as well as to allay health related fears of birth control methods in particular.)

2. Family planning promotes harmony and happiness in family.

Fewer children ensure peace and harmony and enable good care of parents/inlaws/husband/children and family responsibilities.

3. A planned family assures progress in occupation by allowing one to work more and better.

4. Family planning enables you to make progress on your farm. It enables you to save money and time, to buy more land, dig a well, get electric motors for irrigation, tractor, and other implements.

5. Too many children do not allow any of this and what little land one may have gets divided up in very small pieces among so many.

6. A planned family means a bright future for one's children. You can care for them, give them education and they will grow up to be worthy children and will care for you in your old age.

7. Fewer children means you can marry them off well.

8. Fewer children will not go astray and engage in social and factional disputes.

Most of these appeals can also be used for the other two non-user segments although in some cases it would require altering their unfavorable or neutral instrumentalities rather than reinforcing favorable instrumentalities. These are discussed below.

Segment #3: Nonintenders who approve: These people need to be converted to positive intention and behavior by making the inconsistency between their negative intention and favorable attitude and value instrumentalities salient. Nearly three out of four among them consider four children as acceptable, thus requiring a change in their family size preference from four or more to three or less. In addition to the basic

appeals mentioned above, which can all be used for this segment, the following favorable instrumental relations should be strongly promoted between family planning and the respective important values. Finally, their negative religious-moral attitudes, though not very widespread, should be attacked.

1. Health: Very few perceive a positive instrumental relation between good health and family planning. This should be established in the minds of target population.

2. Family Welfare: Favorable relation between family planning and good care of family members and responsibilities should be promoted.

3. Progress on Farm: This is a widely held value. 'Family planning may make the dream of owning (more) land, irrigation and agricultural implements come true for you.'

4. Economic Betterment: 'Family planning afford a comfortable life for the whole family.'

Segment #4: Nonintenders who disapprove: While this group also shares essentially the same value system as the other groups, it requires the maximum intervention in its perceived value instrumentalities. It also has unfavorable attitude towards both family size and birth control. Almost four out of every five in this group consider four or more children well within acceptable limits. Over a third consider large families as good. Birth control is perceived to be anti-religious, immoral and hazardous to health. We have seen that children are considered, by some, an economically and occupationally desirable. We discuss below some appeals aimed at altering some of these negative attitudes.

1. Religion and Moral Aspects: These are two different aspects of birth control evoking negative attitudes in this segment. Although birth control is considered anti-religious by Moslems (who represent a very small minority) no such religious sanctions exist in Hindu religion. The misconception is due to the lack of a clear, authoritative and well promoted religious position on this issue. This can be done by soliciting the support of religious leaders, saints and local holy men. (Some attempts made in south India suggest this is feasible.)

Moral opposition is based on two different reasons. Family planning is strongly associated with sterilization since this is virtually the only method promoted strongly. Sterilization is widely misperceived as involving a loss of some part of the human body or tinkering with the body given by God. Hence it is immoral and 'anti-God'. Some believe that children are God's gifts and therefore one must not interfere with the process. Use of birth control methods is also seen by some as 'dirty' and thus immoral. These moral objections are strongest among this segment since this group seems to hold on to old moral values and concepts most (as indicated by frequencies of disvalued conducts).

These are difficult attitudes to alter and, having identified these for the content (of communication) here, we can only suggest employment of credible and potentially effective sources of communication to effect the change. Perhaps religious leaders can be most useful here. We shall discuss the source variable in a later section of this chapter.

2. Health: Instrumentality of family planning with good health has to be altered from largely neutral, and to some degree negative, to strongly favorable. Three out of every four in this segment mention

good health as a value. In addition to emphasizing the favorable effects of fewer children and spacing on health of children and parents, fears about methods adversely affecting health must be dealt with. There have been cases of prolonged sickness and even deaths following sterilization and use of I.U.D., which are at the root of these fears. Rather than ignore these, one potentially effective strategy would be to track down some of these cases, document them and communicate the real reasons for any adverse effects to disassociate them from methods. This can be reinforced by presenting other successful cases of sterilization. This strategy, when used locally where places and to some extent even individuals in the communications are recognizable, should prove to be effective in altering these attitudes. Research on treatment of opposition arguments lends support to such a strategy (McGuire, 1973, p. 234).

3. Family Size: This segment's preference for a larger number of children was, to some extent, diagnosed as coming from two sources: (i) economic and occupational value of children, and (ii) positive instrumentality of many children with family welfare and harmony. We saw that the first mentioned reason, though still exists, is not as strong as has been traditionally believed to be. Moreover, smaller landholdings, difficulty in obtaining any form of employment and sharply increased cost of feeding and supporting large families can be highlighted in communications to counter and eliminate the 'economic value of children' belief.

The second reason is a little more complex. It derives from old concepts of happy families and from an old age insurance system of the culture where children are expected to take care of parents in their old age. Parents, thus, like to have, for their security, enough children

so that after infant and child mortality have taken their tolls, enough survive for some to grow up to be worthy sons who will look after them in old age. The values are deeply held, it is the role of attending factors that has changed while its perception has not. Communications should be designed to educate people and convince them of the dramatic increases in survival rates of infants, children and adults. Similarly, communications to convince them that fewer rather than more children are likely to result in their being worthy sons due to greater opportunities, care, and education they can give them, would help alter the family size preference in the desired direction. The knowledge of these values, to which the preference relates, is extremely helpful in altering these attitudes since it enables one to intervene at the relevant value instrumentalities.

Segment #1: Users of family planning methods: While nonusers represent the potential market for promotion of family planning practice and should be the primary focus of a communication program, careful attention must also be paid to current users of family planning methods for a variety of reasons. First, reinforcement of this behavior and attitude is needed to ensure continued practice by those using non-terminal methods. Over one half of all users in our sample use non-terminal methods, as can be seen from the figures below. Second, reinforcement of attitude is necessary to ensure a favorable word-of-mouth effect on nonusers. The widespread negative perception of terminal methods in terms of their effects on health is an example of the powerful word-of-mouth process that exists, particularly in rural areas. Third, many of the nonterminal method-users need to be persuaded to use terminal

Practice of Family Planning Methods Among Users

Vasectomy	20.0%
Tubectomy	28.4%
Terminal Methods	<u>48.4%</u>
Condom	32.9%
I.U.D.	8.9%
Other Methods	9.8%
Nonterminal Methods	<u>51.6%</u>

methods. Only 13% of all users want more children (Table 41) and they represent about a fourth of all the nonterminal method-users (51.6%). Among the remaining 75% of the nonterminal method-users who do not want more children, those who still have significant parts of their reproductive-age lives ahead of them should be persuaded to accept a terminal method. Finally, encouraging reevaluation of ideal family size is a very important objective of communications targeted at users, over one half of whom use nonterminal methods. The importance of this objective is underscored by the fact that while 74% of the users consider three (or less) as the ideal number of children, as many as 45% are willing to accept four (or more) children (Table 42).

There are many possible reasons for such a high incidence of usage of nonterminal methods among those who do not want more children. The most likely reason is the fear of sterilization having some permanent or temporary adverse effect on health. Another possible reason is the perceived 'anti-God' nature of terminal methods in that they are seen as tinkering with God-given body. Finally, as the discrepancy between two measures of family size preference mentioned above suggests, there

may indeed be some ambivalence about family size preference. Thus, while they may not want any more children, they may be equally unwilling to put a terminal end to reproductive process, perhaps because of fears that all their current children may not live. Communication messages that deal with all these issues should be designed and directed at users. Given below are some suggestions.

1. The perceived value-instrumentalities of users are overwhelmingly favorable. Messages reinforcing these favorable instrumentalities of small family size with children's welfare, family harmony, material well being, progress on farm, and in occupation, etc., along the lines of those suggested for segment #2, would be appropriate.

2. The positive relationship between good health and family planning must be promoted--only 43% of the users perceive such a relationship.

3. Communications designed to impart information about the advantages, safety and availability of methods, particularly terminal methods, to users of nonterminal methods are required. The strategy of explicitly dealing with health-related fears in relation to terminal methods suggested for segment #4 can also be used for users of non-terminal methods.

4. Messages promoting smaller family size ideal that include reassuring information about significantly improved chances of survival for children are required to move users of nonterminal methods towards accepting sterilization.

The value hierarchies provide the content for messages for all segments. These can be suitably varied for major demographic segments

e.g., urban-rural, male-female, etc.

Source Variables

As mentioned earlier, sources of (i) causation of good and bad things, and (ii) approval and disapproval of good and bad acts, were ascertained. These provide insight into the patterns of influences that are perceived by the target population to be operating on their lives. The nature of causal forces of good and bad things (values and disvalues) as perceived by the target population, in addition to the values (and disvalues) themselves, is an indication of the way that population sees the relationship between itself and the external environment. Similarly, sources of approval and disapproval of good and bad acts respectively provide an appreciation of the 'significant others' whose evaluation of the target population's behavior is important to the latter. Table 47 summarizes the sources of causation of good and bad things for the four segments and Table 48 shows main sources for some of the important value categories.

'God' is the most dominating influence on the lives of one target population. More than half of the good and bad things in their value hierarchy are perceived by them as most likely to be caused by God. As against that, they consider less than 15% of these things as being under their own control ('self'). Users of family planning methods, however, display this dependence on God to a relatively lesser extent (40%-47% as against 56%-70% among nonusers). Their perception of their own and other family members' control over events is also more widespread than that of nonusers. The underlying dimension of internal-external

TABLE 47
PERCEIVED SOURCES OF CAUSATION

	Good Things				Bad Things			
	Users	Intend To Use	Do Not Att. +	Intend Att. -	Users	Intend To Use	Do Not Att. +	Intend Att. -
No. of Value Responses	543	203	243	203	497	155	176	141
	1	1	1	1	1	1	1	1
Government	8.3	11.3	12.8	11.3	3.4	4.5	1.7	0.0
God	40.5	56.2	61.3	64.5	46.9	59.4	57.4	69.5
Fate	5.7	6.9	2.5	3.4	7.0	6.5	7.4	3.5
Elders in Family	7.4	5.4	4.5	1.0	7.6	3.2	5.1	2.8
Husband & Wife	3.9	0.5	2.1	2.5	1.0	1.3	2.8	0.7
Husband	2.6	0.5	2.5	0.0	0.6	1.3	0.6	2.1
Children	5.5	0.2	3.3	1.0	2.6	0.6	0.0	0.7
Family Circumstances	1.1	0.0	0.4	0.0	2.4	1.3	1.7	0.0
Community	0.7	1.0	0.4	0.6	2.4	1.3	1.8	2.1
Self	17.7	10.8	6.6	12.3	15.5	18.1	14.8	10.6
Important people of the community	0.7	1.0	0.4	1.0	0.6			
Economic Condition	2.2	1.5	1.6	1.0	0.8	1.3	0.6	0.0
Rain, Crops	0.4	1.5	0.4	1.5	1.6	0.6	0.6	2.8
Parents	3.3	1.5	1.2	0.0	0.0	0.6	0.0	
Miscellaneous					8.2	1.9	5.7	3.9

TABLE 48

PERCEIVED SOURCES OF CAUSATION OF SOME VALUES

	Users	Intend to Use	Non-Intenders Approve	Non-Intenders Do Not Approve
<u>'Children Get Education, Be Worthy'</u>				
No. Mentioning	101	16	27	21
God or Fate	18%	19%	44%	38%
Elders in Family	13%	13%	7%	0%
Self/Parents/Husband and Wife	40%	31%	26%	28%
Children	25%	25%	19%	10%
<u>'Harmony in Family'</u>				
No. Mentioning	86	23	27	19
God or Fate	49%	78%	70%	68%
Elders in Family, Husband & Wife	31%	13%	22%	16%
Self	15%	9%	4%	16%
<u>'Progress in Livelihood/Occupation'</u>				
No. Mentioning	82	25	16	24
God or Fate	41%	56%	81%	58%
Government	16%	12%	0%	21%
Self	28%	24%	13%	21%
<u>'Own a house, land for house'</u>				
No. Mentioning	43	11	13	17
God or Fate	33%	55%	46%	65%
Self	30%	18%	8%	24%
Family members (elders, husband)	19%	9%	31%	0%

orientation as locus of control is clearly identifiable in this pattern of perceived sources of influence. Nonusers are strongly externally oriented whereas users show greater internal orientation. A similar pattern can be seen in the value hierarchies of users and nonusers (Chapter V, p. 131), and is manifest in the negative perception of birth control as anti-God by the nonintending segments (Chapter VI, p. 143).

Among the important sources of approval and disapproval mentioned (see Table 49) are (i) self, (ii) community-society, and (iii) family members, the last mentioned being a much less important source of disapproval. Thus, while all three operate as positive influences for good acts, 'community-society' is the most important source of negative sanction, followed by 'oneself', against bad acts. This pattern of widespread external influences suggests the existence of a relationship between an individual and the perceived sources of influence--community-society, and 'family members' for example--that is characterized by a need for compliance or conformity (Kelman, 1961).

Table 50 summarizes the 'local sources' of news mentioned by respondents. With the exception of 'husband' as an important source of news (for women), the other important sources are community members--'friends and neighbors' and 'village folk'. Moreover, these 'local sources' are considered the most trusted sources of information by a very large proportion of nonusers, particularly among segments #3 and #4 where it equals or surpasses the popularity of radio as the most trusted source (Table 42). The importance of using 'similar' sources as communicators--those with whom the target audience can identify--is underscored by these findings.

TABLE 49
PERCEIVED SOURCES OF APPROVAL/DISAPPROVAL

	Good Acts				Bad Acts			
	Users	Intend To Use	Do not Att. +	Intend Att. -	Users	Intend To Use	Do Not Att. +	Intend Att. -
No. of Value Responses	530	170	197	155	489	159	190	137
	1	1	1	1	1	1	1	1
Government	0.4	0.6	0.0	0.6	0.6	0.6	0.0	0.0
God	1.5	7.6	4.6	5.2	3.7	9.4	2.6	1.5
Elders and other family members	22.2	24.2	23.9	21.3	9.4	6.3	10.5	2.9
Husband	5.5	3.5	9.6	11.6	5.1	1.2	6.3	3.6
Wife	1.1	0.0	1.0	0.6	0.6	1.2	0.0	0.0
Children	6.2	0.6	2.0	2.6	0.4	0.6	0.0	0.7
Husband and Wife	3.0	0.6	2.0	1.2	0.2	0.6	1.6	1.5
Friends, Neighbors etc.	0.9	4.1	2.0	2.6	1.2	0.0	2.1	0.7
Village folk	1.7	4.7	4.1	3.2	0.8	6.9	3.2	3.6
Community-society	21.9	26.5	17.3	18.1	40.1	49.1	37.9	40.1
Self	31.3	22.9	30.5	31.6	32.1	22.6	32.1	42.3
One who is affected	2.5	2.4	1.5	0.6	3.5	0.0	2.5	1.5
Miscellaneous	1.7	3.0	1.5	0.6	2.2	1.2	1.0	1.5

TABLE 50
 'LOCAL' NEWS SOURCES

	Users	Intend To Use	Non Intenders Approve	Non Intenders Do Not Approve
No. Mentioning 'Local' News Source	74 (38%)*	37 (56%)*	55 (70%)*	43 (67%)*
Husband	43%	16%	31%	26%
Elders in Family	8	8	4	0
Children	4	0	6	2
Friends and Neighbors	35	27	35	40
Village Folk	3	27	9	26
Panch, Sur Panch (Head men)	0	8	2	2
Radio Listeners	3	5	2	0
Urbanized agents	0	0	2	2
Travelers	4	8	11	2

* Represents % of total respondents in the segment

The patterns of causal attributions as well as sources of influence as perceived by the target segments suggest two potentially effective, but very different, strategies for communication design. The first strategy calls for establishing desirable instrumental relationships between the value hierarchies of nonusers and their own actions, included among which is family planning practice, through communications that talk about their values and promote such instrumentalities. To a certain degree this involves promoting internal-orientation and modifying their perceptions about the locus of control of events in their lives. While it is difficult to modify people's orientations, implications of attribution theory suggest that carefully designed communications should be able to alter attributions (Kelly, 1973).

The second strategy utilizes the external orientations of target populations and therefore calls for selection of appropriate 'sources' of communication who may be perceived as representing the entities that they believe influence events in their lives. The use of religious leaders, saints and holy men as agents representing the forces of 'God' and 'fate', and that of influential members of village community, as communication sources is appropriate here. While the two strategies are different in the processes of intervention they employ, both these can be used in communication programs. These can even be combined in a single strategy that utilizes the first strategy for message content design and the second for choice of communicators.

The influence pattern data suggest that both 'identification' and 'compliance' processes (Kelman, 1961) are potentially useful for selection of appropriate sources. The use of influential community

members as well as religious leaders is suitable in view of the need for compliance exhibited by target audiences (Table 49). On the other hand, 'identification strategy' that involves use of 'similar' sources as communicators--village folk rather than urban change agents or experts--would appear to be potentially effective in view of the widespread popularity (Table 50) and perceived trustworthiness of 'similar local sources', as well as the concern for social anchorage of behavior apparent from influence pattern data. The relative superiority of 'similar' sources to 'expert' and 'dissimilar' sources has been reported by several researchers (McGuire, 1973, p. 232; Parris, 1971). Here again, it would be best to use both kinds of sources with different messages of a communication program.

Comparison with Current Communication Campaign

India has a national communication campaign and for several years (since 1968) the primary thrust of mass communication efforts has been to create awareness of family planning and promote a small family concept. Messages have been very simple incorporating a symbol (inverted red triangle) and a two children-family visual. Later, spacing was added to the campaign. With awareness as the primary objective, persuasive appeals were not employed in much of the earlier efforts. The following appeals were, however, employed at various times in films, and to some extent, in press (a medium highly restricted in its reach).

1. Fewer children enable you to give them all the care, education and opportunities you want to give them.
2. Small family is a happy family.

The application of our methodology suggests several appeals that are not used currently, which deal with specific values, value instrumentalities and attitudes. The important ones being: health-related appeals, children being 'worthy' to look after them if fewer are born, moral and religious vindication of birth control, land (ownership and division) and farm related appeals for rural populations.

Moreover, important implications about choice of sources of communications flow from our findings that question the usefulness for dissimilar urban change agents as communicators and motivators currently used, particularly in interpersonal channels. We shall deal with these and other implications in the next chapter.

CHAPTER VII

CONCLUSIONS

In the previous chapters we presented an approach to developing communication-appeals, a methodology for applying the approach, and an application of the approach and the methodology. In this chapter, we make some concluding remarks based on our research. The conclusions concern three broad issues: (i) nature of values, value-instrumentalities and their relationships with attitude and behavior; (ii) methodology for developing communication appeals; and (iii) implications for a social marketing program in family planning.

Values, Value-Instrumentalities, and Their Relationship with Attitude and Behavior:

Nature of Values

1. The thirty-eight value categories generated by our methodology (Table 32 in Chapter V) reflect the target population's hopes and aspirations, fears and concerns, and modes of conduct. As many as twelve categories are concerned with aspects of family life, five of which relate exclusively to children or children's welfare. The other family related values concern harmony, happiness, health, and taking care of elderly and loved ones. These twelve account for 39% of all value responses. It is clear that our target population is highly family-oriented and a substantial part of their hopes and concerns relate to

their family life. The other two areas of concern that seem to be central to our target population relate to occupation and economic welfare.

2. Of the thirty eight categories representing value-manifestations of our target population, seventeen can be classified as terminal--representing end-states of existence or their manifestations, and twenty-one can be classified as 'instrumental' representing modes of behavior, with the responses split nearly equally between the two groups. If we were to further classify the terminal value-manifestations between personal (self-centered) and societal, we would find that most of them belong to the 'personal' sub-group--if values concerning family, occupation and economic welfare were to be treated as 'personal' or 'self-centered.' There is in fact only one category--'society makes progress'--that can be called societal, mentioned by only 13% of the sample, representing less than 2% of the total value responses. To this we can add some of the responses under 'factional fighting/disputes' which was mentioned by 20% of the sample as an 'end-state' rather than a mode of behavior. Our target population, nevertheless, is predominantly self-centered in terms of its value-manifestations. This is not surprising, in light of the fact a vast majority lives under economic and social conditions that make survival and 'getting by' the primary concern.

A classification of instrumental values between competence values (which have a personal focus) and moral values would have to exclude those relating to caring for family, since these can not really be so labelled. From the remaining seventeen instrumental values, only four can be termed competence values, two of which relate to occupation and economic welfare. The rest are moral and religious values. The

classification, however, does not seem to be particularly helpful for designing communications.

3. It was mentioned in Chapter V, while comparing the categories obtained in this study with those of Rokeach, that our categories represent value-manifestations, as intended. If we attempt to match Rokeach's values with those obtained in our study, we find that seven of Rokeach's instrumental values find their manifestations in twelve of our categories, and, five of his terminal values find their manifestations in nine of our categories. Thus, there are many categories that do not have counterparts in Rokeach's list. This confirms our belief that value manifestations are culture-bound, and should be studied accordingly.

Value-Instrumentalities

The measurements of value-instrumentalities indicate that some values are perceived to be relevant to objects of our interest--family size and family planning, while others are seen as unrelated to these objects. Thus, we find that while most of the values are perceived to be related to 'having many children' by majority of those mentioning the values, only about a half of the values are seen to be related to family planning (Table 55, Chapter VI). This clearly supports our proposition that a subset of values is activated by any given object, and the number and centrality of values activated depends on the nature of object.

Values, Value-Instrumentalities and Attitude

It was posited that values, and value-instrumentalities as intervening variables, influence a person's attitudes towards objects.

Attitude towards family planning is significantly associated with eight value categories (Table 36, Chapter V), and with sixteen and thirteen value-instrumentalities of 'having many children' and 'family planning' respectively (Tables 37 and 38, Chapter V). The consistent direction of relationships--fewer positive and more negative value-instrumentalities among those with negative attitudes, relative to those with favorable attitude, and their significance, support the posited relationship between values and attitudes (Table 45, Chapter VI).

Values, Value-Instrumentalities and Behavior

Many values and value-instrumentalities were found to be significantly associated with family planning practice (Chapter V, pages 117-131, & Tables 36 to 39). 'Children's welfare, 'harmony in family,' 'progress in occupation,' etc. were the kind of values positively associated with use of family planning methods. These relationships are intuitively quite consistent and appealing. Value-instrumentalities are also consistently and significantly associated with behavior, confirming the relationships posited in Chapter II among values, value-instrumentalities and behavior. That significant relationships are more widespread with attitude, than with behavior also confirms the intervening role of attitudes.

Cognitive Consistency Approach

The consistency between the nature of values and family planning attitudes and behavior, and the highly consistent pattern of value-instrumentalities with practice of and disposition towards family planning evident in our data provides support to the cognitive consistency strategy that

we adapt for developing communication appeals.

An Evaluation of the Methodology

1. We have developed and tested a methodology for developing communication appeals, the unique features of which are measures of value-manifestations and perceived value-instrumentalities. While these measures of value-manifestations had previously been tested, and applied successfully, the measures of perceived instrumentalities and the method of obtaining these for the values mentioned by the respondent during the same interview, were developed and tested for the first time in this study. The methodology was remarkably successful in the field for data-collection; and as we saw in the last two chapters, it has produced valuable insights into structure of attitude as well as sources for communication appeals.

2. The validity of ECHO technique for value measurement was established in past research (Barthol and de Mille, 1969). The nature of values with which family planning attitudes and behavior are associated, and the direction of value-instrumentalities, are themselves indicative of the predictive validity of the measures. Tables 44 to 47 in Chapter VI suggest very strong claims of validity of these measures; more unfavorable the disposition towards family planning, fewer positive and more negative are the perceptions of value instrumentalities.

3. The comparison of value categories generated by this methodology with those of Rokeach's value survey, made in the previous section of this chapter, indicated the differences in value-manifestations across different cultures. Moreover, several of our categories

could be considered manifestations of just one value in Rokeach's list-- 'family security'. And yet these were considered to be different categories by indigenous classifiers, a judgment supported by the relatively frequent mentions of those categories. These different value-manifestations provide content to persuasive appeals which would be meaningful to the target population. The methodology has, therefore, shown itself to be capable of generating responses that are unconstrained, thus combining the advantages of a survey method with that of a phenomenological approach.

4. The ECHO question-forms used in our study included both positive and negative valences, thus measuring values and disvalues. In our final categorization we have combined positive as well as negative responses in most cases, except for some valued and disvalued conducts. However, the 104 original categories included 26 'bad things to happen' and 28 'bad things to do' categories. Of the 104 original response categories, 37 were logical opposites that could be reduced to 17 concepts. An analysis of their frequencies by respondents, however, indicated that in only 11% of the cases did the same respondent mention logically opposite values. Thus, these categories, though logical opposites, were not empirical opposites. The low incidence of redundancy (i.e. same respondent mentioning logical opposites as good and bad things) emphasizes the importance of using both valences. Moreover, the fact that nearly two thirds of the 104 categories did not have logical opposites, but included values and disvalues in roughly comparable numbers, demonstrates the need for using both valences to tap as many value dimensions as possible. This corroborates the earlier findings about logical opposites in value responses (de Mille, 1970).

Limitations of Methodology: The methodology has some limitations that should be noted:

1. First, in our test in India we found that the ECHO responses per respondent were consistently higher for 'good things' than for 'bad things'. We attributed this to the general belief held among target population that it is inauspicious to talk about 'bad things'. This could very well be a cultural influence rather than an inherent consequence of the method, since previous studies using ECHO method do not report such a result (Barthol and de Mille, 1969). On the other hand, it may very well be a phenomenon prevalent across cultures as suggested by Hulbert (1975).

2. Second, although modes of behavior are an important part of value system their inclusion, along with positive and negative forms of all questions, would allow for a maximum of five repeats for each type of questions. From the point of view of family planning communications, modes of behavior may have limited value, since those are less likely to be instrumentally related, as our study indicates. If it is felt that more repeats of 'to happen' (terminal value) questions are likely to provide deeper insights for developing persuasive-appeals, one may consider replacing 'conduct' questions by 'end-state' questions. This would, however, leave out an important aspect of the target population's value system. An increase in the total number of ECHO questions--beyond 20--is not recommended.

3. The measures of perceived instrumentality utilize the value responses that are obtained in the same interview. It, therefore, has the effect of a sample size that varies with each value, since

instrumentality measures are only obtained for those respondents who mention that particular value. While this is not a serious drawback from the point of view of appeal-determination; it does put limitations on the use of some techniques for sophisticated analysis. This problem of course, can be overcome if the study is conducted in two stages, wherein the first stage obtains value-measures and then instrumentality measures are obtained for a uniform list of values for all respondents in the second stage.

Implications for a Social Marketing Program in Family Planning

The implications for choice of communication appeals have been dealt with in detail in Chapter VI. Here we first present some general implications for design of communications, and then consider some implications for other elements of the marketing mix.

Implications for Communications Program

1. It appears, from our study, that in the north-western state of Rajasthan in India, where the data was collected, a communication strategy with multi-tiered objectives is needed. At one level, a carefully designed campaign to alter and update some basic beliefs that underlie some of the value-instrumentalities and resultant attitudes, is needed. The most important of such beliefs concerns one's security in old age that is believed to be assured only if one has enough sons so that some survive for at least one to turn out to be worthy for taking care of parents. This undoubtedly has, at its root, outdated beliefs about child mortality, life-expectancy, and the (lack of) effect of

children one has on the chances of their turning out 'worth', all these factors have radically changed in the last fifty years, perceptions have not. A campaign should be mounted to update and these beliefs as antecedents for favorable attitude towards family planning. Another belief that can be tackled in such general campaign concerns religious-God-related-implications of family size and family planning.

At another level, values that are consistent with family limitations should be promoted and made more salient. Children's future, family harmony, progress rather than survival, and control (over events) rather than fatalistic resignations are the kind of values that should be made more salient.

At yet another level, positive instrumentalities between family planning and family size, and centrally held values must be promoted. These should focus on the values shared by the target population rather than those of another subculture or socialization. These have been discussed at length in Chapter VI.

Finally, knowledge about family planning methods, their safety, ease of use and availability should be promoted. These should specifically aim at removing some of the inhibitors that have appeared from our study: strongly negative perceptions of health-effects and religious (anti-God) overtones of family planning methods.

2. The nature of values and pattern of influences on values of this subculture suggest that 'similar' and 'credible' sources, who enjoy influence in the community may be most effective. A data-based strategy of intervention, which attempts to present case studies and facts with

which the audiences can identify, could prove to be very effective.

Among the possible issues that can be dealt with in this manner are:

- (i) reduction in infant and child mortality rates, and increase in life expectancy;
- (ii) improving chances of 'worthy' sons with fewer children;
- (iii) safety of use of birth control methods--particularly sterilization, etc.

Implications for other elements of the Marketing Mix

Communication, although very important, is only one element of a social marketing program. Other elements of the mix--product, price, distribution, etc.--play important roles in the overall effectiveness of any program. To be sure, the findings of our study, particularly those concerning negative attitudes about sterilization and I.U.D. and widespread unpopularity of the personnel of family planning organization, suggest that without a reevaluation and modification of other aspects of the program, a communication effort, however well designed, is likely to be of limited success in achieving program objectives. We discuss below some implications for these other elements of the marketing mix.

1. An important implication for a family planning program, as evident from this study, concerns the 'offering' or the 'product'. Currently, sterilization is the only product behind which promotional effort is put at the grass roots level of the program. Although Nirodh (condom) and I.U.D. are available, these are not pushed by the field workers, and Nirodh marketing program is a separate entity up to the highest national management level. The attitudes, value-instrumentalities and inhibitors in our study make it sufficiently clear that the two strong deterrents to acceptance of sterilization are (i) anti-God nature

of the method--as it tinkers with the God-given body, and (ii) strong fears of permanent adverse health effects of sterilization. While efforts can, and should, be made to overcome these, a potentially effective strategy should provide alternative 'product forms' that circumvent these beliefs and allow the prospect to accept birth control within the framework of his belief system. The pill could be an important addition to the 'product mix'.

2. The projective nature of the methodology for value and instrumentality measures suggests another potentially valuable use for it, within the context of family planning programs. This concerns the training of field workers for persuading prospects to accept birth control. One of the problems with field staff concerns their cultural 'distance' from target populations--staff in usually urban, educated and middle class, working with rural, illiterate or semiliterate, agrarian prospects. In some cases, as in Rajasthan, they come from very different subcultures (Kerala--in South India). In both cases, their understanding of the value systems of target populations--their hopes and concerns, and codes of conduct--is usually limited and has to be acquired for effective performance. A potentially effective way to train them and sensitize them to the value system of a target population would be to make them categorize ECHO value responses, working towards the goal of indigenous categories. This exercise would not only expose them to the manifest needs of the community, but will also train them in the nuances of the culture.

3. The final recommendation concerns the distribution of family planning services. As mentioned above, the present 'channels' of

distributing services consists of a "salesforce" (field workers) whose members are generally aliens to the community they service. Moreover, strong local competition exists in the form of dais (midwives) who have been providing pre- and post-natal services in the community traditionally. Since family planning workers are an economic threat to the livelihood of dais, the dais attempt to discredit the workers and blunt their influence on the community, usually quite successfully. It may be much more effective to employ the dais themselves, train them, and entrust them with the task of promoting birth control methods. Since dais are local and enjoy acceptance in and familiarity with the community, this strategy resembles appointing an existing influential dealer in a market as the sales-agent for one's product. Apart from the likelihood of much better performance in promoting family planning, it would also be substantially cheaper to use dais.

To Sum Up

In closing, it can be said that the results of the study in India suggest that our approach and methodology for developing communications should prove to be very useful to social marketers and administrators of social programs. The results also emphasize the need and the importance of a marketing-orientation in a family planning program and, above all, remind one of the need to understand the 'consumer'. The real test of the value of this research, however, lies in its performance in the market place - its contribution in achieving the goals of social marketing programs.

APPENDIX A**Individuals Associated with the Study in India**

INDIVIDUALS ASSOCIATED WITH THE STUDY IN INDIA

Shri L. R. Bhandari	Principal Researcher
Columbia University, New York	

Shri Gopal Bhardwaj	Honorary Consultant
University of Jodhpur, Jodhpur	

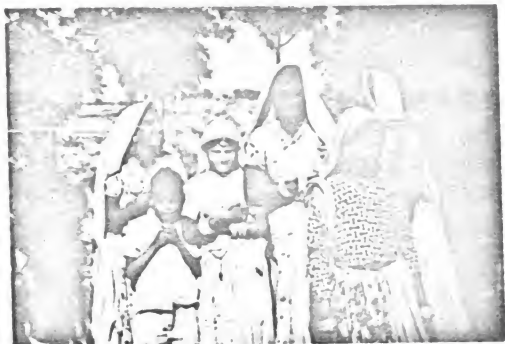
Staff

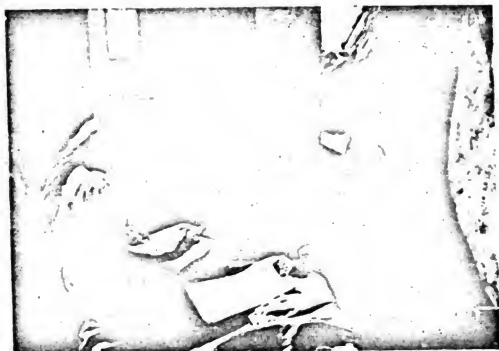
Kum. Munni Bhandari	Field Interviewer
Kum. Radha Bohra	Field Interviewer
Kum. Sarala Gang	Field Interviewer
Kum. Lalita Mathur	Field Interviewer
Shri Yogesh Mathur	Field Interviewer
Shri Kailash Vyas	Field Interviewer
Shri Mahaveer Singhvi	Staff Assistant
Shri Pahar Singh	Driver

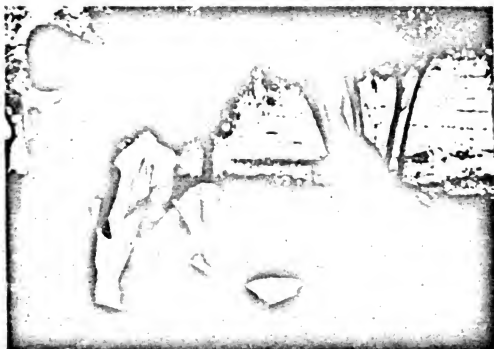
APPENDIX B

Some Photographs of the Field Work in India

APPENDIX C**A Copy of the Questionnaire Used in India**







तप 1

(यह तप इंटरव्यू समाप्त होने पर करें)

उत्तरदाता नम्बर		जोड़ •	कालम नं०
		026	6-26
तप या नॉम	(कोष्ठ) में पढ़नी जरूरी	5	9-6
बाई का मोडेल		1	157
पर ला पद			-
इंटरव्यू का नाम	LRB	7	115
उत्तरदाता स्त्री । पुरुष	M	1	121
90 नि० प्रयोग	Y	1	131-
			14-15

(1) तारीख

24/12/74

(2) इंटरव्यू का नाम

LRB

(3) उत्तरदाता का नाम

मदनलाल जी

(4) इंटरव्यू शुरू होने का समय

2:15 pm

(5) इंटरव्यू समाप्त होने का समय

3:10

(6) ज्ञ. समय

(7) इंटरव्यू के प्रत्यक्ष ला नतीजा :

(क) स्थापने)

(अ) इंटरव्यू पूरा हो गया

(ख) उत्तरदाता ने इंस्कार कर लिया

(ग) इंटरव्यू पूरा न हो सका

(घ) इंटरव्यू पूरा न हो सकने का कारण

(8) उत्तरदाता का समय :

(अ) तारीख

(ब) समय

• इस कालम में न लिखें ।

CCCCCCCC

त ० ६ २

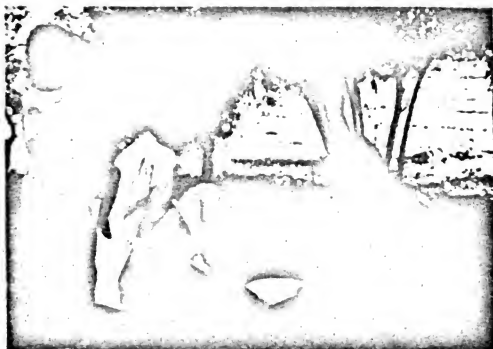
पारितोषिक जानकारी

- 1- क्लर्क से पहले पायके पारितोषिक के बारे में पूरा पूना वास्वा एं।
(नीचे लिखी जानकारी प्राप्त करें व लितें)

प्रश्न	जानकारी	जोड *	लाउप नं०
पारितोषिक के बरस्को की संख्या	5		16-17
परितोषिक रकम 1 वा संकुल 2	1		18
उपस्थान की संख्या	40		19-20
पति । पति की संख्या	32		21-22
माता	माली	4	23
पति	हिंदू	1	24
उपस्थान संख्या	खेती (जमीन)	1	25
उपस्थान पति । पति संख्या	" H.W.	1	26
माता संख्या की	Mahar (M-5)	5	27
माता पति । पति की	अनपरा	1	28
पर से पोने की माता	मास्वादी	1	29
उपस्थान माता की जानकारी स्वयं			30-32
उपस्थान माता की जानकारी : पति । पति			33-35
पारितोषिक जानकारी मास्वादी	Rs 300/-	3	36
क्लर्क की संख्या : कुल	3		37-38
	2		39-40
	1		41-42
क्लर्क की संख्या	1 या 2 या 3 या 4 या 5 या 6 या 7 या		43-63
कल्ला	14		
कल्ला	11		

* इस जानकारी में न लितें ।





तबल 1

(यह तबल इन्टरव्यू समाप्ति होने पर भरे)

क्रमांक नम्बर	कोट •	कालम नं०
गृह या कोठ	5	9-6
घाट का संख्या	1	10-7
घर का पता		-
इन्टरव्यू का नाम	LRB	7
कालम नं० 1 पृष्ठ	M	1
पृष्ठ नं० 2 पृष्ठ	Y	1
		14-15

- (1) तारीख
- (2) इन्टरव्यू का नाम
- (3) कालम नं० का नाम
- (4) इन्टरव्यू शुरू होने का समय
- (5) इन्टरव्यू समाप्ति होने का समय
- (6) कुल समय

24/12/74

LRB

मदनलाल

3:12 PM

3:10

- (7) इन्टरव्यू के प्रश्नों का नतीजा :
(क) सत्य

✓

- (क) इन्टरव्यू पूरा हो गया
- (ख) कालम नं० के प्रकार का प्रश्न
- (ग) इन्टरव्यू पूरा न हो सका
- (घ) इन्टरव्यू पूरा न हो सकने का कारण

- (8) कालम नं० का समय :

(क) तारीख

(ख) समय

• इस कालम में न भरें ।

CCCCCCCC

पारितोषिक जानकारी

- 1- क्लो में आपके आपके परिवार के बारे में पूछ पूछा जाएगा है ।
(नीचे मिली जानकारी प्रामाणिक हो व लिते)

प्रश्न	जानकारी	कोड *	उत्तर नं०
परिवार के सदस्यों की संख्या	5		16-17
परिवार राजनी 1 वा संकुल 2	1		18
उपस्थित की संख्या	40		19-20
पति । पति की संख्या	32		21-22
माता	माता	4	23
पति	पति	1	24
व्यवसाय ईस का	खेती (अमीर है)	1	25
व्यवसाय पति । पति का	" H.W.	1	26
मिसा स्वयं की	Mahic (H.S.)	5	27
मिसा पति । पति की	अनपद	1	28
पर वे बोले की भाषा	मारवाड़ी	1	29
अन्य भाषा की जानकारी स्वयं			30-32
अन्य भाषा की जानकारी : पति । पति			33-35
पारितोषिक जानकारी माहवार	Rs 300/-	3	36
क्यों की संख्या : कुल	3		37-38
	हज्जे	2	39-40
	हज्जे	1	41-42
क्यों की संख्या : 1 वा 2 बरा 3 वा 4 वा 5 वा 6 वा 7 वा	1 वा 2 बरा 3 वा 4 वा 5 वा 6 वा 7 वा		43-63
हज्जे	1 वा 2		
हज्जे	1 वा 2		

* हर उत्तर में न लिते ।

2- (ख) उस हल गोर उबरी (होली) बात बतावो ?

(41) (117-118)
(120)
4 (11)

मार्गसेन रंग भेला रेवे

(ग) एण बात ते होला ने लिखा ते आप कबु ज्वावा
ही छे ।

खुद फोर घर की मदद (83) (20-21)

3- (ग) हल गोर होली बात लिखी आप बतावो ।

(91) (22-23)
(120)
3 (24)

दूध री महाप्रता करां

(घ) एण बात ते होला ने लिखा ते आप ही छे ।

खुद (शरीर री कार्मिक) (51) (35-24)

4- (ग) हल फोर (भो) होली बात बतावो ।

(12) (27-28)
(120)
1 (31)

डाक्टर पदी ने चान्चा भित लाग जेव

(घ) एण बात ते होला ने लिखा ते आप ही छे ।

चामी लुगई दोनो (32) (30-31)

5- (ग) गोर लोह इन्दी बात ।

(61) (32-33)
(120)
1 (34)

लहरी ने अच्छी घर मिल जेव ।

(घ) एण ने लिखा ते आप ही छे ।

दोनो (चामी लुगई) (32) 35-36

6- उस आप बतावो ते माँ सब बतावो ने हवा वुं ज्वावा आप लिखा
बात ने बाज्जो लिखारो होलाते आप कबु ज्वावा फान्द जराता ।

हनी, नीयति, मोर्फी पुरा पविरी ।

(120) जलम छे नीये तेक नचर नोट छे ।)

7- ए लो की छोड़ी बात । कू बात हरी की ये जिनी बात
(भूमी) ऊँ ओर उवाँ नदी उवाँ के उवाँ के बाते हरी
बात कीते । हरी बात तो उवाँ के स में तहले देगे ओर
उवाँ भावत हूँ उवाँ के ये ना हूँ उवाँ के उवाँ के बाते ।

(ग) उवाँ के उवाँ हरी की बात (भूमी) बात के ऊँ (32) 37-51
(लेख)

फूल लगे राखो नकुल
3 (37)

(घ) जा बात उवाँ कीते तो एन दे बीजा में जिनी हाथ हो
ऊँ ।

ईश्वर (21) 40-41

8- (ग) ऊँ ऊँ हरी बात बताये । (11) (लेख) 42-43

जीतारी 2 44

(घ) एन दे बीजा में जिनी हाथ हो ऊँ ।

ईश्वर (21) 45-46

9- (ग) एन ऊँ बात बात जिनी बात ऊँ । (X3) 47-48
(लेख)

किती बुरो 1 49

(घ) एन में जिनी हाथ हो ऊँ ।

सुद (51) 50-51

10-(ग) एन ऊँ हरी बात । (लेख)

(घ) एन में जिनी हाथ हो ऊँ ।

11- (ब) और कोई तथ्य बात ।

(नेक)

(ब) एण ने किण तो एण एने छे ।

12- अब आप बतावो कि एण सब बातों में कस्युं, तथ्य आप किण बात में लिखो ।

इसी - - - - - पक्षी ।

(नेक लिखे)

Chapter 6

13- (अ) ह तो खी कही (छोटी) और मूरी (डूँगी) बात ।

अब आप एसे नाम बतावो लिखो अगर आप कहो तो आप कहको कि यों नाम बारे आप बुं छोटा ह्यो ।

(12-13)

(14)

(ब) आप अगर यों नाम ह्यो, एण में कस्युं बतावो क्ण क्णद छोटा (छोले छोला) !

15-16

(ब) एता कोई हलात है किण ने कि यों नाम छोले नई लिखिये ।

17

14- (अ) ह्यो एण एसे छोले नाम बतावो ।

56

11-17

(नेक)

20

स्वूल वगैरा खेलेने में मदद देगी

(ब) एण नाम में क्ण बतावो छोले छोला ।

61

11-22

पदनाल टाउर

(ब) किण हलात में यों छोले नई लिखिये ।

0 23

कोई नहीं

15- (अ) फेर लोह रजो दोनो काम ।

मोन फेर देश देहि रोनाम

63 24-25
(लेख) 26

(ब) एण काम ने कृण कणो दोनो गिणोता ।

अए फेर देश केहि रो

(क) जिण कलत वे ओ काम दोनो नई गिणिये ।

कैर ही +

63 27-28

0, 29

16- (अ) एक फेर रजो काम कतावो ।

(लेख) 30-31

32

(ब) एण ने कृण दोनो गिणोता ।

33-34

(क) जिण कलत वे ओ दोनो नई गिणिये ।

35

17- (अ) फेर लोह रजो दोनो काम जिने आप का रजो ।

(लेख) 36-37

38

(ब) एण ने कृण दोनो गिणोता ।

39-40

(क) जिण कलत वे ओ दोनो नई गिणिये ।

41

18- अब आप कतावो कि एण सब काम वे आप जवु दोनो
लिने गिणोता । दुओ - - - - - पाववो ।

(लेख लिखे ।)

19- ए तो कृण होला काम । कृण एहा बुरा काम की होये
जिना अगर हो जाये तो अपा भ्याने बुरा (बुरा)
गिणा जोर अपा नई बाबा के अपा कदेह एहा काम
करा ।

(अ) अब आप एहा लोह काम कतावो जिने कि अगर आपने
हाथ दू हो जाये तो आप कतावो कि ओ काम तराव

- (सोटो) कुंज ? 34 42-43
जीव, आदमी ने मुझसे पट्टी चाँदी 1 44
- (व) एका वृत्त काग ने वृत्त वस्तु ज्ञाता तारा निष्ठा
 वा फल नही लेता ?
हब मल्ल आदमी 63 45-46
- (व) एका वृत्त काग ने वृत्त वस्तु ज्ञाता तारा निष्ठा
 निष्ठा ?
एक रे मुझसे वृत्त वस्तु ज्ञाता तारा ① 47
- 20-(व) वृत्त वृत्त काग वस्तु ज्ञाता तारा निष्ठा । 36 48-49
चोरी करणो 5 50
- (व) एका वृत्त काग ने वृत्त वस्तु ज्ञाता तारा निष्ठा ?
मल्ल आदमी 63 51-52
- (व) एका वृत्त काग ने वृत्त वस्तु ज्ञाता तारा निष्ठा ?
कोई नहीं 0 53
- 21-(व) एका वृत्त काग वस्तु ज्ञाता तारा निष्ठा ? 39 54-55
मल्ल करणो 2 56
- (व) एका वृत्त काग ने वृत्त वस्तु ज्ञाता तारा निष्ठा ?
मल्ल 44 57-58
- (व) एका वृत्त काग ने वृत्त वस्तु ज्ञाता तारा निष्ठा ?
किसी का जीवन वचन है। 4 59
- 22-(व) वृत्त वृत्त काग वस्तु ज्ञाता तारा निष्ठा ? 24 60-61
दिवस लेणी 3 (62)
- (व) वृत्त वृत्त काग ने वृत्त वस्तु ज्ञाता तारा निष्ठा ?
मल्ल 51 63-64
- (व) एका वृत्त काग ने वृत्त वस्तु ज्ञाता तारा निष्ठा ?
कोई नहीं 0 65

23- (3) ગોત્ર કોઈ પણ સ્ત્રીઓના પુત્રો જો માટે તો
 ગાય એ પુત્રો ગણાશે ? (તેજ)

(4) પણ ગાય ને કૃત્તિ કહેવામાં પુત્રો ગણાશે ?

(5) સ્ત્રીના કાલમાં જે ગોત્રના પુત્રો નથી ગણાવેલા ?

24- એ ગાય એ પતાવો જો પણ એ ગાયમાં જે સ્ત્રી
 ને ગાય એ પુત્ર કહેવામાં લેવામાં ગણાશે । કૃત્તિ - - -
 - - - પાંચમો ।

(તેજ ગિતે ।)

आप खुद उब्दी (गोली) और घूरी (तराव) बातां बताई ।
अपने आपसे या आपकी बाई/आप खुद घूरी बातां और उब्दी घूरी
बातां ने रिफा हल वृ जोले ।

- 1- खुद के आप एक उब्दी बातां या बताई : (लच्छ 3 प्रश्न 1 उ से
पछ कर तुलाई) । आप कोई गोली, कोई घूरा में और छोटी
कुत्ता छोले, घूरा में कोई रिफा है ? कहीं एक घूरा वृ घूरा
गोली में या गोली में, या बातां को बातां को कोई देणा देणा
नहीं ?

(उब्दी घूरा पर रिफा हल बातां को या उब्दी बातां से
का रिफा है कः घूरी में व उब्दी घूरा पर नीचे रिफा को
के अनुसार लिखाई कीजिये ।)

(फिर बल्ला प्रश्न बातां उब्दी बातां व घूरी बातां के
रिफा घूरी में व उब्दी बातां से रिफा का का कर नोट
कीजिये ।)

- 2- अब आप उब्दी घूरा काय हो रिफा कि आप बताया । बल्ला
होतो काय आप की बातां : (लच्छ 3 से बताई) । आपने
बल्ला में कोई छोटी कुत्ता छोले और आप की गोली काय
ऊपर बातां कीव कोई रिफा है ? काई एक छोले तो घूरा
को छोले या नई छोले, या बातां काय में कोई रिफा
(तेजा देण) नहीं ?

(उब्दी बातां से रिफा घूरी और फिर कः प्रश्न बातां
हल उब्दी काय व लच्छ घूरी बातां के बातां में घूरी ।)

नोट: उब्दी घूरा पर रिफा हल बातां से उब्दी घूरी बातां के छोले की या
उब्दी घूरी काय का उब्दी में बातां :

ज्यादा उभावा छो, जाताही रहे = 1

जब उभावा छो, बातां छो = 2

रिफा नहीं, तेजा देणा नहीं = 5

उब्दी घूरी बातां के छोले या उब्दी घूरी काय का उब्दी से उब्दी घूरा पर
पर रिफा हल बातां से छोले में बातां :

ज्यादा उभावा छो, जाताही रहे = 3

जब उभावा छो, बातां छो = 9

रिफा नहीं, तेजा देणा नहीं = 5

1- आप बत्तनों के आपरे ----- 3 ----- टायर है ।

(लण्ड 2 से दो कर मलार्)

कोई आला पाठ नों महीना मे करे टायर तो नहीं हुआ
बालो है ।

(उतर के अनुसार उपयुक्त जम् पर नोटा कीजिये ।)

हाँ 1 नहीं ④ कला नहीं 3 (अ- 12)

2- जमे आपरे लुम्मे मे आप रिता टायर फोर ब्यावो ?

या

एक हुल्पा बाजा टायर ने कमे आप आपरे लुम्मे मे रिता
टायर फोर ब्यावो ।

कू N.I (अ- 13)

लकुमा (अ- 14)

महुल्मा (अ- 15)

कला नहीं (अ- 16)

3- आप अगर बत्तनों के आप ----- टायर फोर ब्यावो ।

आपरे अगर ----- 3 ----- टायर है (एक पाठ ने फिकासे)

हैन फिकासे ने ह्या ----- 3 ----- टायर । अगर आपरे ----- 3 -----

हुं ज्यादा टायर ह् बाये तो मे आ बाणवी ब्यावू रि रिता

टायर हो आपे लगे आपने लगे के र तो नीरा टायर हो

गया, ह्या नई केणा बडीले । मे ----- 3 ----- से गिणनो

बावू जहाँ । कमे आपने लगे के नई ह्या तो गप्पा है -

ह्या नहीं होक्या कीये, उडे आप को रोफ दीजो ।

(उतरावाता को फिके कमे बायेले या अभी है उर

हिया पर पली पफि कौगा कीजिये । उहाँ उतरावाता

लिती रोफ दे उर हिया पर नीये की पफि मे नोटा

करे ।)

अभी है या बाएले है 0 1 2 ④ 4 5 6 7 8 9 10 11 12 (अ- 17)

ज्यादा लगते है 0 1 2 3 4 ⑤ 6 7 8 9 10 11 12 (अ- 18)

24

- 4- वापरे लिखन मुं हल गणने ह्वाण्ड (बलि बलि) रे लिखा टावर केला बलिने लिखन ... ह्वाण्ड ने वाप नोले हलको ।

हल	3	(19)
हलके	2	(20)
हललि	1	(21)
हल नली हल		

- 5- बलि गणने ह्वाण्ड (बलि बलि) जी हलने लिखन ज्वाण्ड टावर नली हलने गो हलने हल ज्वाण्ड केर टावर नली बलिने । गो रे हल गलने जी हल हल ज्वाण्ड लिखन गलने टावर नली हल ।

हल ① गल 2 हल नली 3 (22) 22

(बलि हल हल (ग)) हल ज्वाण्ड लिखन हलने हल हल हल है । लिखन (ग) हल !)

- (ग) वाप हल हल गलने गोले हलको हलने बलिने लिखन हल टावर हलने हल गलने जी हल ?

हलका ① हलका 2 बलि लिखन 2 (23)

- (ग) हलने गोले गल गल है लिखन गल वाप गल गल ने हलने हलको ?

हल 1 गल 2 (24)

- (ग) हल लिखन गल हलने ? गल हलने ?

----- (25) -----
----- 15-26 -----

- 6- हल गलने गल गल (बलि) लिखन गल है ? गल गल गल ने बलिने हलने गल गल ?

हलका ① हलका 2 बलि लिखन 2 (27)

- 7- गल हल गल ने बलिने हलने — गल नली हलने हलने हलने हलने । गल हलने हल हलने (गल हलने) हलने गल गलने गल ?

गल — हलने मुंडने गलने गलने गलने तो (31) (28-30)
हलने गलने

कहा मैं -----

(48-50)

किसका मैं -----

(50-52)

- (8) यदि हम याताई में जी बात आपसे कह दें तो आपको क्या
 प्यारी है या लगाने देंगे ? हँसी, खिलखिली ।
 (बोलने का सीखा हुआ नम्र नम्र हिले ।)
 (1) ----- (2) ----- (3) ----- (52-54)

- 8- लोग कहिये नरे टावर से नई तो नई वे हवा-वाहने कहीं
 नरे हवा नारे में आप की जाणों ?

हाँ ① नहीं 2

(55)

(यदि नहीं तो प्रश्न 9 पूरे ।)

- (9) आपसे दिया दिया याताई ही ठा है ?

(नीचे जाणकारी के जाण में गोले कीजिये ।)

- 9- आपसे टावर पौर कहाला नई वे यदि देखा कद ही पावे
 हवा वाहने आप या आपरा पति (पति) (भण्डी तुम्हारे)
 ऊँचे जी जाणों ?

हाँ ① नहीं 2 कदा नहीं 3

(56)

(यदि नहीं या कदा नहीं तो प्रश्न 10 पर जायें)

(यदि हाँ तो (9) पूरा कर ऊँचे 6 पर जायें)

- (10) आप कहें तरीको काम में हिलो ? आप जे की
 जे काम में हिलो ?

हाँ 1 नहीं 2

(60)

(नीचे जाण में गोला कीजिये)

जोड़ 3

(नीचे कालम में गोंगा जीतीये)

(12-22) (21-15)

जातकाति (14-35)	प्रयोग (36-45)		काल
①	①	1	नरकन्दी (पुरुष)
②	2	2	नरकन्दी (महिला)
③	3	3	विरोध (बान्धव)
④	4	4	तृण (आकृष्टी)
5	5	5	फालगुन गौरी
6	6	6	गाने की गौरी (स्त्री)
7	7	7	हाथकान
8	8	8	दुनाय केप
9	9	9	रेली (जीव)
10	10	10	बुद्धिमान वक्ता
11	11	11	वैद्य
			अन्य
12	12	12	गर्भमात (डी एण्ड बी)

(प्रश्न 10, 11 व 12 त्रिक जन्मे बुद्धिमे ओ परिवार नियोजन नहीं अपनाते हैं ।)

10- कालो नहि काला है ?

(36-41)
(40-51)

11- टापर नहि वे वा कहिते जरे एत ये हण पावते आप जाने
कन्हे हूँ करणो क्हायो ?

(52) 42-

है 1 नहि 2 कह नहीं सकते 3

(यदि एत तो प्रश्न 13 पर जाये, अन्यथा प्र 12 पृष्ठ 1)

18

12- कण तो जाई जातुन हे ?

(13-46
(53))

(नीचे दिले प्रस्न सन्ने पूछे ।)

13- केई तरेन छातो हे वे टावर नही पुखे वालो कुर रागन
काव में तेने गो भी नही ले सके । ओ लिखा जातुन
सुं होवे ?(22) (11-54)
(अनं०)

14- (अ) कुर होतुन जातो टावर हटो हटो होवे ।

ओ लिखा तह सुं हो सके ।

(ओ लिखा पावे निभर करे) (प्रोव करे)

मो. र. म. म. म. म.

(11) (55-61)

(ब) कुर टावर हटो हटो ते ओर शरीर करे ।

ओ लिखा तह सुं हो सके ।

(लिखा पावे निभर करे)

मो. र. म. म. म. म. म.

(63-70)
(13) (33) (30)

- 1- आप से मै अब भव जन्म के बारे में पूछना चाहता हूँ ।
क्या आप धार्मिक मान्ता करते हैं ? आप जिनका
भव जन्म जिनका करते हैं ?

1 - नास्तिक

(15)

② - धार्मिक मान्ता करते हैं ।

3 - वेदा पूरा, पाठ या नवाज यादि जन्म कर्म
जन्म बन जाता है हम करते हैं ।

4 - लिपि ब्यापार पर भव करते हैं ।

5 - हमारा जन्म निम्न (नवाज) करते हैं ।
उत्तमि अक्षर

- 2- हमारे दो विरोध में जो कुछ होता है कर्म जनमारी
एवं रूप बर्तिका से भिन्नी है ।

(अ) आपको ऐसा मानमारी अधिकार से भिन्नी है ।

(नीचे गोटा करे ।)

भाग	अधिकार स्तर भिन्नी है		कर्म जन्मा नरते वाता
	(अने जन्म)	(पूर्व वत्)	
अस्मार	①	1	1
परिकार	2	2	2
तेडियो	③	3	③
विनेषा	4	④	4
स्वामीय लोग			
हुद के मानमान से	8	⑤	8
अन्त कोई भाग	9	9	9

(16-24)

(25-33)

(34)

(अने जन्म जिन भागों का नाम न हों, उनके बारे में पूछें)

इस रूप में से आपको जन्म का भाग कर्म भोग्य करते
योग्य लगता है ?

3- (अ) क्या आप रेलियों द्वारा जाते हैं ?

हाँ (1) नहीं 2

(यदि हाँ तो (ब) पूछें)

(35)

(ब) आप रेलियों से कितना जितना जाता करते हैं ?

(1)

राज	1
सप्ताह में 3-4 दिन	(3)
नहीं रुकी	3

(36)

(2)

कितने घंटे — 1 Hr.

(4) (37)

(ब) अधिकतर आप कौन कौन से प्रोग्राम सुनते हैं ?

प्रोग्राम	गंठ	कालम नं०
खबर	2	(38)
		(39)
		(40)
		(41)
		(42)
		(43)
		(44)

4- (अ) क्या आप चिन्ता देते जाते हैं ?

हाँ (1) नहीं 2

(यदि हाँ तो (ब) पूछें)

(45)

(ब) आप कौन कितनी बार चिन्ता देते जाते हैं ?

(उपयुक्त ऊपर पर गौरव कीजिये)

(46)

महीने में 3-4 बार	1
महीने में 1-2 बार	2
साल में 8-10 बार	3
साल में 4-6 बार	4
साल में 1-2 बार	5
बहुत ही कम	6

(4)

5- (अ) क्या आप उत्तम पत्रिकाएँ खाते करते हैं ?

हाँ ① नहीं 2

(47)

(यदि हाँ तो (अ) व (ब) पूरे ।)

(ब) आप कौन से उत्तम पत्रिकाएँ खाते करते हैं ?

(ब) क्या आप हमारे कर्मियों हर रोज़ का हर रोज़ खाते करते हैं ?

उत्तम पत्रिकाएँ	कोड	कतब	हर रोज़ 1 या कभी कभी ②	कतब
हिन्दुस्तान	1	(48)		(49)
नवभारत 21/1/51	1	(50)		(51)
जोधापुर के मन्त्र	2	(52)		(53)
(आम बर्तन)	3	(54)		(55)
		(56)		(57)
		(58)		(59)

(नीचे के प्रत्येक विकल्पों में से पूरे ।)

6- आप अपने गाँव से कितने उत्तम पत्रिकाएँ खाते करते हैं ?

(60) ②

महीने में बीस बार

7- आपको कितने उत्तम पत्रिकाएँ खाते करते हैं ?

(61-66) ③

आम के आम से ।

APPENDIX D**English Version of the Questionnaire Used in India**

Questionnaire

(Complete this part at the end of the interview)

Code* Col. No.

Respondent I.D. No.

City or Village name

Ward/Locality

Address

Interviewer's name

Sex of respondent

Family Planning Use

- (1) Date
- (2) Interviewer's Name
- (3) Respondent's Name
- (4) Time started
- (5) Time completed
- (6) Total time spent
- (7) Outcome of interview attempt
 - (a) Interview completed
 - (b) Interview refused
 - (c) Interview not completed
 - (d) Reason for non-completion
- (8) Next appointment
 - (a) Date
 - (b) Time

*Do not write in this column

PART I

Information about family

1. I would like first to ask some questions about your family.

(Ascertain and record the following information.)

Question	Information	Code	Col. No.
Family Size			
Nuclear or Extended Family			
Age of Respondent			
Age of Spouse			
Caste			
Religion			
Occupation of Respondent			
Occupation of Spouse			
Education of Respondent			
Education of Spouse			
Household Income per month			
No. of Children Respondent has			
No. of Sons Respondent has			
No. of Daughters Respondent has			

PART II

Now I would like to ask you some questions about your hopes and aspirations. Every individual has his own set of aspirations and different people feel differently. There are some things we wish would happen to us, there are others that we wish would not happen. Please answer freely, just the way you feel.

(Probe for these questions and record responses verbatim.)

1. (a) Please tell me what is a good thing to happen to you? (If respondent does not answer, use, if necessary, the following form to explain.)

What is a good thing that you would pray for to happen?

(If further explanation or prodding is necessary, indicate all the fields which the values may concern: family, personal life, work-related, social, religious, community related, national or international spheres. Avoid giving examples, unless absolutely necessary, in which cases, give examples irrelevant to the respondent, e.g., 'As you know, I am studying and a good thing to happen for me would be that I pass my examinations.')

- (b) Who or what is likely to cause this? (If necessary, explain that good things can be caused by a variety of agents: own efforts, others' help, government, circumstance, fate, God, etc.)

2. (a) What is another good thing to happen to you?

- (b) Who or what is likely to cause this to happen?

3. (a) What would be another good thing to happen?
(b) Who or what is likely to cause this?
4. (a) Tell me one more good thing to happen?
(b) Who or what is likely to cause this?
5. (a) Any other good thing?
(b) Who or what is likely to cause this?
7. Now, there are some things that you would consider bad and you wish they would not happen to you.
(a) What is a bad thing to happen to you?
(b) Who or what is likely to cause it to happen?
8. (a) What is another bad thing to happen?
(b) Who or what is likely to cause this?
9. (a) What is another bad thing to happen?
(b) Who or what is likely to cause this to happen?
10. (a) Another bad thing to happen?
(b) Who or what is likely to cause this to happen?
11. (a) Any other bad thing?
(b) Who or what is likely to cause this?

13. (a) Now please tell me what is a good thing that you could do?
- (b) Who is likely to approve of it?
14. (a) What is another good thing that you could do?
- (b) Who is likely to approve of it?
15. (a) Another good thing that you could do?
- (b) Who is likely to approve of it?
16. (a) What is another good thing to do?
- (b) Who is likely to approve of it?
17. (a) Any other good thing that you could do?
- (b) Who is likely to approve of it?
19. (a) What is a bad thing that you could do? (Explain that you are interested in things that if the respondent were to do, he himself would consider them bad acts.)
- (b) Who is likely to disapprove of it?
20. (a) What is another bad thing that you could do?
- (b) Who is likely to disapprove of it?
21. (a) Another bad thing that you could do?
- (b) Who is likely to disapprove of it?

22. (a) What is another bad thing to do?
- (b) Who is likely to disapprove of it?
23. (a) Any other bad thing that you could do?
- (b) Who is likely to disapprove of it?

PART III

You have mentioned some good and bad things. I would like to know how a few other things are related to these.

1. For example, you said that one good thing to happen to you was (Read from Part II, section 1(a)). Do you think "having a small family" is related to it? Does one help the other (make it more likely), (make it less likely) or are these unrelated?

the question for each of the four items on the next sheet for the good thing to happen. Repeat the question for all remaining good and bad things mentioned by respondent in Part II. (Record code according to the coding instruction given below.)

2. Now, let us take the good and bad acts. The first good thing that you said you could do was (Read from Part II). How is this related to "having a small family"? Does one make the other more likely (helps), less likely (hinders), or are these unrelated? (Ask the question for each of the four items on the next sheet for all the good nad bad acts mentioned by respondent, and record responses coded according to the scheme given below.)

Coding Scheme: If the item on the next page makes good or bad things or acts:

More likely to happen, help	= 1
Less likely to happen, hinder	= 2
No difference, is unrelated	= 5

If the good or bad things or acts mentioned make the item on the next page:

More likely to happen, help	= 8
Less likely to happen, hinder	= 9
No difference, are unrelated	= 5

Good and Bad Things to Happen (Part 3, Question Nos.)

Good Things (Q. Nos.)					Bad Things (Q. Nos.)					
1	2	3	4	5	7	8	9	10	11	

Col. Nos.

1. Having many children
2. Good occupation--crop/job/business
3. Children get education and become able.
4. Family Planning--having children if and when desired.

Good and Bad Things to Do (Part 3, Question Nos.)

Good Things to Do (Q. Nos.)					Bad Things to Do (Q. Nos.)				
13	14	15	16	17	19	20	21	22	23

Col. Nos.

1. Having many children
2. Good occupation--crop/job business
3. Children get education and become able.
4. Family Planning--having children if and when desired.

PART IV

1. You mentioned you have _____ children? (Ascertain from Part 2.)

Are you (your wife) expecting another child? (Circle)

Yes 1 No 2 Don't know 3

2. Do you want any more children (after the one you are expecting)?

Total _____

Boys _____

Girls _____

3. You mentioned you have _____ children, and you want _____ more. This makes (including the one expected) _____ children. If you were to have more children than this, I would like to know when (at what number) you would feel that these are too many--you must not have that many. I will start with _____ (the number he has or desires), please stop me at the number that you consider excessive. (Record by circling the numbers below)

Now has or desires 0 1 2 3 4 5 6 7 8 9 10 11 12

Considers too many 0 1 2 3 4 5 6 7 8 9 10 11 12

4. In your opinion, how many boys and girls make the best size family?

Total _____

Boys _____

Girls _____

Not Sure _____

5. (a) Many couples feel that they should not have a child at some stage or that they should not have any more children. Is it possible

for them to do something to prevent or delay having children?

Yes 1 No 2 Don't know 3

(If 'no' or 'don't know' explain that birth control is possible.)

(b) How do you feel about couples taking steps to prevent or delay pregnancy? Do you approve, disapprove or feel uncertain?

Approve 1 Disapprove 2 Uncertain 3

6. How does your husband (wife) feel about it?

Approve 1 Disapprove 2 Don't know 3

7. (a) People give different reasons for their approval/disapproval of family planning. What are your reasons?

Reason _____.

(b) Now I will read to you some of the things people say about family planning, and I would like to know how you feel about them. Please tell me whether you strongly agree, agree, disagree, strongly disagree, or are neutral or uncertain.

(Record by circling appropriate number.)

1 2 3 4 5 Fewer children are good for mother's health

1 2 3 4 5 Fewer children are easier to bring up

1 2 3 4 5 Fewer children promote family happiness

1 2 3 4 5 Fewer children prevent economic hardship

1 2 3 4 5 Fewer children means mother can work

1 2 3 4 5 Fewer children allow parents to do other things

1 2 3 4 5 Small population is good for our country

1 2 3 4 5 Birth control is against religion

- 1 2 3 4 5 Birth control is morally wrong
- 1 2 3 4 5 Birth control is painful and troublesome
- 1 2 3 4 5 Large families are good

8. Do you know about the methods that people use to delay or prevent having children?

Yes 1 No 2 (If 'no', go to 9)

(b) What methods do you know of? (Record below.)

9. Have you and/or your husband (wife) used any method to prevent or delay having children?

Yes 1 No 2 Don't know 3

(If 'no' or 'don't know', go to 10)

(b) Do you still use that method?

Yes 1 No 2

(c) What method is that? (Record below)

(Circle appropriate numbers)

Awareness	Use	Method
1	1	Vasectomy
2	2	Tubectomy
3	3	Nirodh
4	4	I.U.D.
5	5	Foam Tablet
6	6	Pill
7	7	Diaphragm

8	8	Dumas cap
9	9	Jelly/cream
10	10	Safe Period
11	11	Abstinence
12	12	Abortion
		Other (specify)

(Ask Q. 10, 11 and 12 to non-users only.)

10. What is the reason for your not using any methods?

11. Do you intend to use any methods in the future?

Yes 1 No 2 Not Sure 3

(if 'yes', go to 13)

12. What is your reason for this?

13. Many people wish to do something to delay or prevent having a child, but do not actually do anything. What, in your view, are the reasons for it?

PART V

2. There are many sources through which we learn the news about what happens all over.

(a) How do you generally learn the news?

(Probe those not mentioned.)

(b) Which source do you consider most trustworthy?

Method	News source		Most Trustworthy
	Unaided	Aided	
Newspapers	1	1	1
Periodicals	2	2	2
Radio	3	3	3
Cinema	4	4	4
Local People (specify)	5	5	5
Own Travels	8	8	8
Other	9	9	9

3. (a) Do you listen to the radio? Yes 1 No 2

(b) How often do you listen? Daily 1
 3-4 times a week 2
 Occasionally 3

(c) What programs do you generally listen to?

4. (a) Do you go to see movies? Yes 1 No 2

(b) How often do you see movies?

3-4 times a month 1

1-2 times a month 2

8-10 times a year	3
4-6 times a year	4
1-2 times a year	5
Rarely	6

5. (a) Do you read newspaper/magazines? Yes 1 No 2

(b) Which ones do you read and how often?

(Ask only in villages)

6. (a) How often do you go to town/city?

(b) For what purpose do you generally go?

APPENDIX E**Final Value-Categories and their Constituent Items**

FINAL VALUE CATEGORIES AND CONSTITUENT ITEMS

Concerning Children's Welfare

- VC1 Children get education, Be worthy
 GT21 Children get education, Be worthy
 BT21 Children become 'unworthy'
 BT22 Children fail school
 GA08 Get children educated
- VC2 Good marriages for children
 GT18 Good marriages for children
 GA09 Marry children well
- VC4 Looking after children well
 GA07 Look after children well
 BA03 Not looking after children

Concerning Family Size/Family Planning

- VC3 To Have Children
 GT19 Have children
 BT24 Not have children
- VCE To Have Too Many Children
 GT20 Not have any more children
 BT23 Have too many children/girls
 BA06 To have too many children

Concerning Family Life and Welfare

- VC5 Harmony in Family
 GT13 Harmony in family
 BT17 Domestic disputes
 BT18 Joint family breaks up
 BT19 Problems between husband-wife
- VC6 Happy Family Life
 GT14 Comfortable and peaceful family life
 GT15 Happiness of having a family
 BT20 Family faces problems

VC7 Taking care of family responsibilities

GA05 Taking care of family responsibility

GA12 Adjust to circumstances

BA01 Be irresponsible towards family

BA02 To spend irresponsibly

VC8 Taking good care of parents/in-laws/husband

GA04 Look after parents/husband/in-laws well

BA05 Be irresponsible with husband

BA07 Not looking after parents/in-laws

BT01 Not looking after parents

VC9 Keeping good relation with family and relatives

GA06 Keep good relation with relatives and family

BA04 Not keeping good relation with family members

VC10 Good health for family members

GT17 Good health for family/husband

BT08 Illness or disability

VC11 Death/Accident

BT99 Death

BT10 Accident

Concerning OccupationVC12 Good Crop-Agricultural Year

GT06 Good Crop/Agricultural Year

BT12 Bad Crop/Agricultural Year

VC13 Progress on farm, get land, have irrigation facilities

GT07 Have irrigation facilities

GT08 Secure land

GA03 Make progress on farm

VC14 Progress in occupation

GT05 Progress in livelihood/occupation

BT11 Adverse effect on occupation

VC15 Work better/more and job/farm

GA01 Work better and more at job/farm

BA08 Not working hard at work

Concerning Economic WelfareVC16 Earn a livelihood, Get work

GT04 Secure a livelihood

GA02 Earn a living

VC17 No poverty/hardship

GT09 Be free from poverty

GT12 Financial situation improves

BT13 Poverty/financial hardship

BT15 Inflation

VC18 Own a house and/or land for house

GT11 Own property (land/house)

GA13 Build a house

VCA Be materially comfortable and rich

GT10 Have material comforts and riches in life

VCB Theft

BT14 Theft

Concerning Social StatusVCC Maintain one's honour in society

GT25 Keep one's honour

BT25 Social dishonour

Concerning Community, Village, Society or CountryVCD Society, Country, Village solve problems, make progress

GT02 Village makes progress

GT03 Nation solves problems/makes progress

BT05 Bad social customs continue

BT06 Societal problems

BT07 Problems for the country

GA20 Help in village activities

GA21 Engage in social service

GA22 Serve the country

Good Acts (Valued Conduct)

- VC19 Helping others
 GT28 Help others
 GA17 Help others
- VC20 Be Charitable
 GA19 Be charitable
- VC21 Be religious
 GT22 Be religious
 GA18 Engage in religious activities
- VC22 To earn an honest living
 GA14 Earn an honest living
 BA10 To cheat black marketing
 BA11 To indulge in corrupt practices
 BA24 Greedy, selfish behaviour
- VC23 Pursue one's interests, self-development
 GT01 Get more education
 GT26 Improve self--obtain higher qualities
 GT27 Be able to do what I really want
 GA10 Do needlework, painting etc.
 GA11 Study further

Bad Acts (Disvalued Conduct)

- VC24 Engage in factional fighting/disputes
 BT16 Social and village disputes
 BA19 Factional fighting, rioting, violence
- VC25 To go against social and religious mores
 BT04 Unethical behaviour
 BA22 To go against social and religious mores--drinking
- VC26 To mistreat others (abuse, criticize)
 GA16 Be nice to others
 BA20 To abuse
 BA21 To criticize, run down others
 BA25 Discouraging other people
- VC27 To Steal
 BA15 Stealing

VC28 Immoral behaviour

BA16 Immoral behaviour

VC29 Deception

Deceptions

VC30 To tell a lie, commit perjury

BA18 Telling a lie, perjury

VC31 Harm others

BT02 Harm others

BA27 Harm others

VC32 Harm or kill a living thing

BA12 Killing a living thing

BA13 To harm a living thing

BA14 To sin

VC33 Irresponsible and misguided behaviour

BT03 Irresponsible behaviour

BT26 Be misguided/misunderstood

BA09 Not completing obligations

BA26 Wasting time

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